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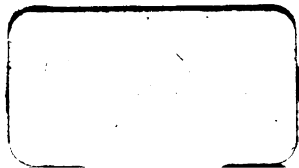
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INTRODUCTION.

IN presenting this volume to our readers and the Retail Grocery Trade of New England, our chief and indeed only object is to provide, in as concise and comprehensive form as possible, a truly authentic and reliable history of the growth, culture, natural properties, and preparation of the varied and numerous articles which are now incorporated in the "Grocery Trade," in order that the dealer and his assistants may not only be aided in an intelligent discrimination of the character and quality of the products daily brought under their notice, but give them a lively and constantly increasing interest in the trade, by adding to their store of practical scientific knowledge of the articles dealt in. This work comprises, within itself, all the uses of a Cyclopædia, a Manual and a Hand-Book, all the necessary, well-ascertained and authenticated facts being condensed into the smallest space consistent with completeness and perspicuity. Desiring to render its pages as interesting as possible, we have, in the treatment of the various sections, endeavored to steer clear of the ponderous argument of the Treatise, the statistical monotony of the Cyclopædia, and the meagre description of the Hand-Book—so that it may prove to its possessor a *multum in parvo*, a handy and compact *work of reference*, which shall combine amusement, information and instruction to every reader.

THE GROCER'S COMPANION.

ACID PHOSPHATES.—The introduction of acid phosphates as a manufactured product into our commercial price-lists is of comparatively recent date, though they long held a place in the Pharmacœopia as a medicinal remedy. Its present existence as a popular food product, and as a powerful agent in building up and strengthening the human system, is due to the scientific research and business enterprise of Prof. E. N. Horsford of Cambridge, Mass. The intrinsic value of the preparation, and the extraordinary and uniformly beneficial results achieved by its use, have deservedly gained for it a permanent and firm place in the regular market quotations. Being comparatively unknown, as regards its chemical combinations, to the general public, a brief description of its composition, properties and influence on the system may not be uninteresting.

Phosphatic salts, in one form or another, are always present in healthy animal organizations — as phosphate of lime in the bones, phosphates of potassa and soda and iron in the cerebral, nervous and muscular systems, and as phosphoric acid in the cellular structure of the stomach; so that when there is an absence or deficiency of these phosphatic acids in the human body, sickness and disease inevitably results. In such a case, therefore, the individual can only be restored to health by the instant and constant supply of these phosphates in adequate and suitable proportion to the condition of the person.

ADULTERATIONS.—It has always been the fashion to blame the Retail Dealer for all the iniquities of adulteration, regardless of the fact that, in many cases, the grower, the merchant, or some one of the many intermediate parties having an interest in the product, are much more frequently the guilty parties. Adulteration is now

and has been extensively carried on in almost all departments of commercial and manufacturing produce. Even the articles used for adulterating purposes are themselves adulterated, and the evil has no limit. The retail grocer is never an *advocate* of adulteration, though by competition and prolonged rivalry he may be compelled unwillingly to sanction it. Manufacturers adulterate for the sake of profit, and are driven to it by the demand for cheap goods. A fair price is absolutely necessary to secure *pure* goods. But there is a great deal of the "wolf" about this cry of adulteration. Fifty per cent. of the supposed "adulterations" existing in the New England markets are simply *admixtures* with inferior or damaged qualities, and disguised by manipulation. For instance, milk is generally found *pure*, though devoid of all cream; the most popular brands of mustard are largely "adulterated" with *farina*, because it is too pungent for domestic use in its natural state. It cannot, however, be denied that a considerable amount of adulteration exists which is injurious to health, but as a rule it exists where it is least expected, and very rarely detected. Laws of a specially stringent character exist in many States of the Union; but, unfortunately in most cases, the Retail Grocer, who is usually innocent and ignorant of the impurity, suffers the loss both of money, custom and character. The chief articles of "grocery," subject to "adulteration" or "deterioration," may be enumerated as follows:

COFFEE.—Owing to the present cheapness of pure coffee, there is but little *bona fide* adulteration. The presence of a coffee-mill in a grocer's store or household is a death-blow to the introduction of foreign substances, as by purchasing the roasted bean and grinding it themselves, nothing but pure coffee of *some grade* is obtained. More or less cheap mixtures are sold in package form, but it is universally understood that they are mixtures, consisting of chicory, peas, rye, etc., and contain but a limited amount of coffee. There is no one article in the grocery warehouse so severely and successfully manipulated as *coffee*. It commences from the time the berry is picked and prepared for the market, and continues until it reaches the consumer. The *producer* mixes the tail ends and leavings of the old crop with the new. The *middle men* or commission agents at the principal points where coffee is accumulated for shipment, manipulate it by changing packages and marks, polish it and color it by chemicals, and thus alter its color, marks and appearance, so as to make it sell more readily. On its arrival in this country, the coffee is turned out of its original packages, shovelled over, marks again changed, and bags turned inside out, the coffee sweated or artificially colored, as the trade may desire, or the necessity of removing the traces of damage require. Java skimmings are picked over by children, the black beans taken out, and the balance re-marked and sold as sound, though the taint remains beyond the power of human

ingenuity to remove. An average of 6,000 mats of this coffee is bought monthly and distributed through the markets of the United States to the Retail Dealers as sound, first-class goods. *Rio* coffee is polished by machinery, and colored in different shades—the golden hue being imparted by turmeric and the light slate color by the use of soap-stone.

TEA—Is extensively adulterated in China by means of exhausted tea leaves and the leaves of other trees, to the amount of many millions of pounds annually. China clay, fine sand, iron filings, etc., to the extent of from 20 to 40 per cent. are used, the tests for which are simple, and will be referred to under its proper head.

BREAD.—The chief adulterations are *alum* or *sulphate of copper*, to give solidity to the gluten of damaged or inferior flour; *chalk* or *carbonate of soda* to correct the acidity of sour flour; and boiled rice or potatoes to enable the bread to carry more water, and to swell its bulk.

FLOUR—And other farinaceous substances are sophisticated with plaster, potato starch, and similar cheap ingredients.

BUTTER AND LARD—Are adulterated by the introduction of inferior fats and the addition of water, salt and starch. They are readily detected by melting the butter and allowing it to stand, or by its peculiar feel, taste or odor.

MUSTARD—Is generally diluted with flour or other farinaceous matter, and colored with turmeric to improve its appearance. The genuine material contains no starch, so that the addition of starchy matter may readily be detected by the iodine test.

SPICES—Generally are largely adulterated. In so-called *Ground Peppers*, gypsum, buckwheat husks, mustard husks and starch are frequently used, to the entire exclusion of the pepper. *Ginger* is adulterated with sago meal, turmeric and ground rice. In *Cayenne Pepper*, ferruginous earths, brick dust, vermilion and red lead are found. *Exhausted Spices* are commonly re-ground, for the purpose of adulteration.

Other adulterations practiced to improve the appearance of the article may be thus briefly enumerated:—The addition of alum and salts of copper to *Bread*; the facing of *Black Tea* with Frankfort black—and of *Green Tea* with indigo, Prussian blue, turmeric and China clay; the treatment of *Pickles* and *Preserved Fruits* with a salt of copper, to make the color a bright green; the addition of ferruginous earths to *Sauces*, *Anchovies*, *Potted Meats* and *Preparations of Cocoa*; the use of mineral pigments, such as green arsenite of copper and chromate of lead in *Confectionery*; the addition of sulphuric and other acids to *Vinegar*, etc.

The minor adulterations are flour and terra alba to baking powders; starch and flour to chocolates; gum arabic to licorice; common plaster to cream of tartar (sometimes as high as 60 per cent.); starch and farinaceous matters to indigo; flour to powdered sugar; syrups made from corn starch and sulphuric acid; tapioca made from potatoes; foreign leaves and paper mixed with tobacco; liquors of all kinds "doctored" in numberless ways; maple sugar made from muscovado; nutmegs boiled and recoated; artificial honey and jellies, etc., etc.

ALCOHOL.—Alcohol is obtained as a result of the fermentation of sugar, whether in the starch of plants or vegetables, or from other substances; it is also extracted by distillation from spirituous liquors. Alcohol is the essential element in all intoxicating drinks. Brandy and whisky contain about 50 per cent. of alcohol. Proof spirits from 55 to 60 per cent. It cannot be brought nearer purity than 90 per cent., or a proportion of 10 per cent. of water. Pure or absolute alcohol is a colorless fluid, with a pungent, agreeable taste and fragrant odor. It is highly inflammable, and burns with a pale blue flame, without smoke. The action of alcohol on the system is that of a powerful and dangerous stimulant. If it is kept in large quantities in a store, it necessitates extra insurance. It cannot be sold without a United States license, which costs \$25 per annum for retailers and \$200 for wholesale dealers. The internal revenue tax is 90 cents per gallon. It is applied to various uses by manufacturers, perfumers, and also for domestic purposes, and has a large retail demand in the New England States.

ALDEN DRIED FRUIT.—This term is applied to every kind of fruit which is capable of being dried, such as grapes, raisins, currants, etc., and has been submitted to the process known as the "Alden Process of Evaporation." This process consists in extracting the water from the fruit, without impairing its flavor or freshness. The fruit is dried in a chamber constructed for this especial purpose, and the water extracted by means of hot air blasts. All kinds of fruits and vegetables are dried by this process, and are now extensively sold in our markets, and command the highest prices, from the exquisite delicacy and superiority of their flavor. The principal vegetables are also prepared in this manner, and a bushel of potatoes weighing 60 pounds, when dessicated by this process, is reduced in weight to 4½ pounds.

ALLSPICE.—Allspice is also known as Pimento and Jamaica Pepper, and is the dried fruit of a small West India tree called the Pimento, originally indigenous to the Carribee Islands, and extensively cultivated in Jamaica and the East Indies. The fruit is about the size of a small pea, and is gathered when *green*. It is called Allspice

from its supposed resemblance in flavor to a mixture of cinnamon, nutmeg and cloves, and is rarely adulterated on account of its cheapness. The green berries are dried by spreading on a terrace exposed to the sun for about seven days, when they become a reddish brown. Their taste is warm, aromatic and slightly astringent. The berries are used as a spice in cooking, and as a carminative in medicine. The annual consumption in the United States averages about 20,000,000 pounds, of the value of \$90,000, exclusive of duty.

ALMONDS.—Of these there are two kinds, sweet and bitter. The sweet almonds consist of three varieties — the Jordan, Valencia and Brittle-shelled; the first-named being the most highly esteemed. The Jordan almond is imported from Malaga, and is longer, narrower, more pointed, and more highly prized than those imported from Valencia. The tree from which almonds are obtained is a native of Barbara, and is cultivated throughout Southern Europe, Syria, Persia, and Northern Africa, though the chief supply is from Spain and the South of France. The kernels of the sweet almond are used, both in the green and ripe state, as an article of dessert, and are extensively employed in confectionery, cooking, perfumes, and for medicinal purposes. When young and green, they are preserved in sugar, like green apricots. They also furnish the almond oil of commerce, which is used for the same purposes as olive oil. The Bitter almond is a most active poison, and destructive of animal life, from the large quantity of hydrocyanic or Prussic acid which it contains. Hence the great danger which arises from its use, and the great caution necessary, when it is employed (as it is occasionally) in flavoring confectionery. The consumption of sweet almonds in the United States reaches \$500,000 in value per annum.

ALUM.—Alum is a mineral, of a tonic and astringent character, and is used, commercially, not only in its crude state, but also in various preparations, as an article of domestic consumption, and is commonly known as the sulphate of ammonia, in which form it is kept in almost every grocer's warehouse, and eagerly sought for by the public. It is frequently used by bakers to whiten their bread. There is a large quantity of alum present in many of the cheaper classes of baking powders; consequently, the incomplete neutralization of this astringent, by the other elements, is productive of considerable annoyance and injury. It is very useful in the preparation of skins, and in fixing the color in colored prints, etc., and therefore invaluable in the laundry, hide dressing, and other preservative processes. But in all matters relating to articles of food, or food preparation, its use should be controlled by the greatest skill and discrimination.

AMMONIA.—Ammonia is a chemical compound in the form of a transparent, colorless, and extremely pungent gas. It is chiefly derived from a crystalline substance, originally obtained from the distillation of bituminous coal in making gas, and also from refuse animal matter. The ammonia of commerce is sold both in the crystal and liquid form, and is used for cleansing woollen and other fabrics, metals, etc., and also as a disinfectant. It combines with acids to form salts. A solution of this gas in water is used in medicine, under the name of hartshorn. Smelling salts is the carbonate of ammonia. Ammonia, in combination with sulphuric acid, forms a white salt, and is sold in drug stores as sulphate of ammonia. There is also another form, obtainable at most retail grocery stores, called "water of ammonia," extensively used for laundry purposes, to take stains out of linen.

ANCHOVIES.—The anchovy is a small fish of the herring family, about six inches long, somewhat thicker than a sardine, and found in the Mediterranean Sea, on the Atlantic shores of Europe, and also on the Atlantic and Pacific coasts in the United States. The true anchovy may be distinguished by its round back, though sardines are frequently sold as anchovies, from their comparative cheapness. When intended for exportation, they are salted and packed in small barrels. This fish is largely employed in the manufacture of pastes and sauces, and is quite a favorite relish at United States breakfast tables. Anchovies should always be chosen small, fresh pickled, and the color white on the outside and red in.

ANISE-SEED.—Anise-seed is the fruit of *pimpinella anisum*, originally from Egypt and the Levant, but now grown all over Europe. The seeds have a fragrant odor, and a sweet, warm, aromatic taste. They are used in medicine, and also to flavor liquors, and as a condiment. They contain a volatile oil, which is obtained by distillation, and frequently used as a substitute for the seeds. The "star anise oil" of commerce is a native of Eastern Asia, and is imported from Anam and China. The annual importations to the United States is about 100,000 pounds.

ANNATTO.—This is a red dyeing drug produced from the red pulp covering the seeds of the *Bixa orellana*, a shrub growing wild in South America, and cultivated in the West Indies. The process of manufacture may be thus described:—The pulp and seeds are bruised together in wooden vessels, and hot water poured on them; they are then left to soak for a few days (say a week), when they are pressed through a close sieve to separate the seeds. The pulp is then left to ferment for another week, when the water is gently poured off, and the solid portion left to dry in the shade. When it has assumed

the consistency of a paste, it is considered ready for the market. It is chiefly used in coloring butter and cheese. It does not in the least affect their quality, and is used in the creameries and factories instead of the yolk of an egg, which is often added to the farm dairy produce to give it the rich color demanded by the consumer. It is also frequently used to color chocolates. The annual consumption in the United States reaches 330,000 pounds.

ANNEAR SAUCE.—This deservedly popular table sauce was invented, manufactured and introduced to the trade by John Annear & Co., of Philadelphia and New York, and was formerly known as Pennsylvania Sauce. Its piquancy, tonic and appetizing properties, and the freedom from reaction on the breath or the gastric juices, renders it a peculiarly pleasing, pungent and popular condiment, and an excellent relish for cold meats, sandwiches, fried fish, oysters and soups. It prevents nausea and promotes digestion.

APPLES.—This well-known fruit has been vastly improved by cultivation from its original wild state, which is still seen in the *Crab apple*, the parent of all the American varieties. There are upwards of two hundred varieties under cultivation, and this large number is rapidly increasing. There are three classes of apple, which are determined by the time of ripening, and vary considerably in taste and appearance. The Harvest or June apple, small, yellow and sweetish, is the first to make its appearance among the summer apples; then comes the Highlow (handsome and fine-flavored,) the Sourbough, Porter and the Gravenstine. These are followed by the Fall apples, the best being the Maiden Blush, the Belle-flower, the Holland Pippin, Fall Pippin and Strawberry Pippin—the two first-named being the favorites. The leading varieties in the Winter apples are the Greenings (the best and most popular family apple, being alike suitable for eating, cooking or preserving), the Baldwin (a good-looking but inferior apple, of dry, insipid flavor), the Northern Spy and Spitzenberg (finely-flavored eating apples), the Seek-no-further; the Gill Flower, commonly called the Sheep's Nose, from its peculiar pointed shape (having a pleasant, sweetish flavor), the Swaar and the Russet; the last being the latest comer and the hardest of all the varieties. The Newtown or Golden Pippin is raised chiefly for export to Europe, where it is much esteemed. When sliced and dried, the apple is an important article of commerce—the annual exportation from this country being nearly 1,000,000 bushels of green apples, and 5,000,000 pounds of dried apples.

APRICOTS.—This delicious fruit is the produce of a small tree, a native of Armenia, but cultivated both in Europe and America. The fruit is of a yellow color, the exposed side having a reddish tinge, and resembling, in many of its qualities, the peach. In East-

ern countries it is used as an article of food, and is dried in the same way as figs. It is frequently propagated by grafting on the peach, plum, or wild cherry tree. Canned apricots are brought to our markets from California.

ARROW-ROOT.—This product is a starch obtained from the root of a West India plant, and is also largely cultivated in Georgia, Florida and the Brazils. The name is said to have been obtained from the fact that the Indians used the fresh roots to cure the wounds made by poisoned arrows. It is much more probable, however, that the name was derived from *Ara*, the old Indian name of the plant. Maranta, Canna, and Curcuma are the best qualities. Potato-starch, which is largely used to adulterate arrow-root, is frequently sold as English arrow-root. In Cayenne, the natives eat the root roasted for the cure of intermittent fevers. It is from the root-stocks of this plant that the finest Bermuda or West India arrow-root is obtained. Prepared arrow-root is almost pure starch, but, should any *potato*-starch be present, it can be readily detected by the microscope. It is used as a simple food for invalids and children, and is usually dissolved in boiling water, and flavored to suit the taste. Upwards of 1,250,000 pounds of arrow-root is annually consumed in the United States.

ARTICHOKE—As it appears in the market, is the fleshy or pulpy part of the flower of the artichoke plant, taken before the flower expands. In this country, it is usually boiled before eating, when it is used as a salad; in Europe, it is frequently eaten raw, with pepper and salt. Its season is short, from August to September, and is an entirely different plant from the Jerusalem artichoke undermentioned. It is a species of the thistle family.

JERUSALEM ARTICHOKE.—This plant is a native of Brazil, flowering in this country in August and September, and bearing fruit in October. It is a kind of sunflower in appearance, and is cultivated for the fleshy tubers at its root, which resemble potatoes in shape, have a sweetish taste when boiled, and are more watery and less nourishing than the potato. They are, however, quite palatable when properly prepared, and make excellent soup; are usually pickled and eaten as a condiment with vinegar. They are also used in the feeding of stock.

ASPARAGUS.—This vegetable delicacy is a native of Europe, though it thrives freely in the United States; is grown in rich, sandy soil, in meadows, and along the banks of the rivers. It has been much improved by cultivation, as in its wild state it grows only about a foot high, of the thickness of a goose-quill. In its cultivated state it attains a height of three or four feet; the plant, when only a few

days old, is cut as it sprouts from the ground, a few inches above the soil, tied in bunches and brought to the market. It is a favorite Spring vegetable, and was considered a choice dainty by the ancient Romans. The seeds are roasted and used as coffee in Europe at the present day. A kind of fermented beverage is made from the berries.

AXLE GREASE.—It is well-known to all who use vehicles or machinery of any description, that simple oil or grease is utterly ineffective for the purposes of lubrication. A *prepared grease* is therefore necessary to answer all the requirements, and of these there are several descriptions in the market. Axle-greases are usually prepared from the pitchy remains of fatty acids, petroleum or lard oil. Some *patent* axle-greases are composed of tallow, tar, lime-water, flax-seed, flour, Venetian red, and rosin; others are made up of black oil, hard tallow, wood ashes, white lime, salt, sulphur and black lead. But it is necessary, in order to increase its durability and improve its appearance, that *tar* or *graphite* should be one of its chief ingredients.

AVOIRDUPOIS.—This is a system of weights used for weighing everything, except medicines, precious stones, gold and silver.—(See tables). The name is derived from the French words *avoir du pois*—meaning, *to have a fixed measure*.

BAGS (Paper).—Formerly the making of paper bags was one of the chief duties of the grocer's younger assistants, but now they are made so cheaply by machinery that patent bags have been brought into general use. Many manufacturers, desirous of advertising their goods, print paper bags and supply them to the trade at nominal prices, or give them with every sale of their own goods. But every good grocer would prefer to advertise his own store in that way rather than make the trifling saving. Satchel-bottom bags open out square at the bottom are a decided improvement on the old form.

BANANAS.—The banana tree is a species of palm, a native of the West Indies, but now grown in every warm climate. It is the most prolific vegetable known—from thirty to forty plants growing in a space forty feet square. The upper flowers are unproductive, the lower ones rapidly changing into an oblong-shaped fruit resembling a cucumber in size and shape. They grow in bunches, some of them containing as many as one hundred and sixty. The fruit is filled with a sweet, nutritious, custard-like juice, and is one of the chief articles of food for the inhabitants of tropical countries. It is preserved with sugar and with vinegar; is used as bread, and when pressed and fermented, yields a spirituous drink resembling cider. The sap also makes an excellent wine. In flavor, the fruit resembles

the plantain-tree, but is much more agreeable and delicate. It needs but little cultivation—all that is necessary being to weed the space surrounding the trees from suckers. The fruit is generally brought into our markets in a partly green state, and ripened in dark, well-heated rooms. The trees bear fruit every six months, and continue to do so for many years. They are easily frozen, so that in cold weather they are packed very carefully, before shipping, to prevent them from spoiling.

BAKING POWDERS AND BREAD PREPARATIONS.

There are a large number of baking powders and other preparations used in the making of fancy bread and pastry as substitutes for yeast. They are all necessarily compounds of an acid and an alkali which generate carbonic acid gas, and are usually made from cream of tartar and carbonate of soda or ammonia, in various quantities, according to the skill and scientific knowledge of the person compounding. These component parts should always, of course, be used in the exact proportion necessary to neutralize each other, or else the preparation cannot possibly be successful or effective. More or less flour is always mixed with these ingredients; but in the cheaper powders the flour largely predominates, and renders them comparatively worthless. There should be about $85\frac{1}{2}$ per cent. of acid and alkaline combination to $9\frac{1}{2}$ per cent. of flour, with a trace of chlorine and sulphuric acid in a good or standard baking powder. Cheap powders should always be avoided by the grocer, for the reason that they contain by far too great a proportion of starch or flour. *The great advantage of these powders over yeast is the rapidity with which it forms the gas*, thus enabling the baking to be done very much quicker.

YEAST POWDERS.—In all preparations of yeast, the essential element is the yeast plant, a microscopical species of fungi. German or compressed yeast (introduced into the United States about twenty years ago), is generally used—the brewer's or fresh yeast being now virtually discontinued. The vitality of dry yeast is speedily destroyed by the action of heat, cold, chemical re-agents, falls, blows, bruises, or rough mechanical injuries.

BARLEY.—Barley is one of the most useful of all our cereal products. In one or other of its forms, it is used as a preservative of health, as a cure in sickness, and as a restorative to the invalid. It has been cultivated from the remotest antiquity, as an article of diet. In early Greek and Roman writings, and in the Bible itself, frequent mention of it is found, not only as a food, but as a beverage—the liquid extract (beer), being a popular beverage among the Greeks, Egyptians and ancient Germans. It is used and cultivated at the present time, in all temperate climates, as an article of food;

though in this country the grain is raised almost exclusively for the use of breweries. Barley meal is used in the north of Europe for bread. There are several other purposes, however, to which this nutritious and useful grain is adapted, viz. :

POT BARLEY—Or starch barley, which is prepared by simply removing the outer husk.

PEARL BARLEY—(specially adapted for the consumption of invalids, and for use in soups, stews, etc.), is prepared by removing both the inner and outer husks, cutting off a portion of the berry, and rounding and polishing it through a pair of peculiarly constructed millstones—the kernels having been previously steamed and dried.

PATENT BARLEY—Is a flour obtained by grinding the pearl barley, *after its preparation* in that form, and is devoid of the acrid taste which is present in the barley meal, by grinding the seed with its husks.

BARLEY SUGAR—Is a confection formed by a mixture of sugar with a decoction of barley.

BARREL.—The barrel of flour should contain 196 pounds; pork or beef, 200 pounds (the standard of pork has been reduced to 196 pounds); pickled beef, 306 pounds; hams (in barrels), 226 pounds; butter, 224 pounds; soft soap, 256 pounds; wines or liquids, $32\frac{1}{2}$ gallons; tar, $26\frac{1}{2}$ gallons. [See tables.]

BARTER.—Two or three centuries since (and in our country, even at the commencement of the present century), *Barter*, or exchange in kind, was an accepted method of business transaction for all necessities of life. It is indeed still very common, where money and banking facilities are scarce, as in the far west and north-west, and the more recently settled districts of our northern and western States and Territories. In all parts of the United States, country dealers are frequently obliged to take eggs, butter, and other dairy and farm produce in payment for sugar, starch, soap, etc., and when they can dispose of the produce quickly and at a fair price (and are not themselves paying too much for it), the result to the local grocer will doubtless prove satisfactory. But there is a great risk in the matter which is frequently productive of serious results. The produce may sell slowly, and so tie up capital; it may deteriorate in quality or condition; and again, the immense amount of extra labor, time and attention necessary to carry out such a system will more than eat up *all* the profits. Besides, barter leads to a competition in buying which is far worse than all the *cutting* to which the local tradesman is subject in his ordinary business; for the buyer who competes on produce, does not know the price at which the goods will sell in the city, and often finds he cannot realize his outlay after

all the charges are paid. No dealer can do two transactions for one profit; but few are capable of managing a double business, and, when goods are sold below their value or bought above it, it is well to let others control the market. The only principle which the retail dealer can thrive on is, cash in buying and selling, as far as practicable; credit, with great caution; barter only in rare and exceptional cases.

BEANS.—These are the leading vegetables in our market gardens, and are extensively cultivated throughout the country, being universally used as food, both in the green and ripe state. In the *green* state, they are known as *string beans*, and the pod and seed are both eaten. The Lima and Wax bean are deservedly popular species, and are favorites at all tables. When ripe, they are shelled, and are then known as *dry beans*, in which condition they can be kept for an indefinite period. Lima and string beans are canned in large quantities, and the former, after drying, are often soaked in water, and sold in that state in our winter markets as fresh beans. In the early spring, string beans are largely shipped from the South to the Northern markets, where they find a ready sale. In the dry state, beans form an important article in the produce markets. The White Marrowfat is the variety generally cultivated to sell in a dry state. Besides the bush bean we have the pole bean, which grows to the height of ten feet, and requires training. The Lima is, however, the best known, and was originally brought from India. The descriptions enjoying the “run” of the market are the Northern Pea Bean, Yellow-eyes, Red Kidneys and German Beans, of each of which there are two or three grades of qualities.

BEESWAX.—Beeswax is the material secreted by the bees, and of which their cells are manufactured. The wax, separated from the honey, is a valuable article of commerce. The honey being separated from the comb by pressure, or by means of a mechanical contrivance called the honey extractor, the residual wax is heated with water and stirred until it melts. It is then strained through a hair sieve into a vessel of cold water, where it solidifies into a thick yellowish cake. It is rendered white by the action of the sun and moisture. Purified beeswax is tasteless, colorless and odorless, insoluble in water, and enters largely into the manufacture of candles and tapers, besides being used for domestic purposes, and by artists for modelling, etc. It is frequently adulterated with paraffine and spermaceti.

BEET.—This is one of our most extensively cultivated vegetables, and is used for food by both man and beast. It is large, and extremely rich in sugar. In France and Germany, large quantities of sugar are manufactured from it, and known as Beet Root Sugar. The beet sugar manufacture is also rapidly increasing in America.

Beet root sugar is similar to that obtained from the sugar cane, but is inferior in its sweetening power. The boiled roots are a common article of diet in all civilized countries; and the young leaves (especially those of the white beet), are boiled and eaten in the same manner as greens or spinach.

BENZINE.—Benzine is a volatile oil prepared from petroleum, used for the removal of grease spots from wood and woollen cloth, and as a cleansing agent on type and other metallic surfaces. It removes the stain by dissolving the grease or fatty substances. It will also dissolve caoutchouc, gutta-percha, wax, camphor, etc. It is very inflammable, and any grocer keeping more than five gallons upon the premises must effect a special insurance.

BIRD FOOD, ETC.—There are a large number of articles included under this term, which should be found in every grocery store calculated to supply local wants, especially in country towns and rural districts, at a distance from cities. It comprises Smyrna and Sicily Canary Seed, Russian Hemp Seed, English and German Rape Seed, Unhulled Rice or Paddy, Millet, Maw Seed, Cuttle Fish Bone, Washed Silver Gravel, Mocking-bird Food, Clover Seed, Hurd Grass, Orchard Grass, Blue Grass, Red Top Seed, Flax Seed, Yellow Mustard Seed, Hungarian Seed, and Excelsior Bird Food, the prices and the names of dealers in which may be found in the weekly Price Lists of the NEW ENGLAND GROCER. The more important of these articles will be described in their alphabetical order.

BLACKBERRY.—This well-known fruit is sold in large quantities in the early summer markets. It is made into jelly and jam, and from it is made Blackberry cordial, a pleasant astringent wine, used in bowel complaints, and for invalids. There are a great many varieties, all natives of the United States. The common blackberry grows abundantly in all parts of the United States, along the borders of fields and in woods. In some of the Southern States, large quantities of the berries are dried and sent to market. They are also canned to some extent, but the fruit is rather insipid. The fruit of the blackberry is not a true berry, but a collection of drupes or stone fruits on a fleshy basis. It grows on a bushy bramble all through woods and fields, and is much improved by cultivation.

DEWBERRY.—Is a fruit of the same species, but rather smaller, rounder and more juicy. It grows on a low, creeping bramble, and ripens several weeks before the blackberry.

BLACKBERRY BRANDY.—Is the boiled juice of the fruit, with sufficient brandy in it to prevent fermentation. It is much used in all summer complaints.

BLACKING.—A preparation used for the blacking of boots,

shoes, etc. The principal ingredients are bone black, sweet oil, vinegar or sour beer, sugar or molasses, and a little sulphuric acid. There is also a higher grade of blacking, in which wax is used instead of molasses, which produces a softer and more durable polish, and excludes moisture better than the ordinary blacking. Blacking is sold both in the paste and liquid form. Many varieties are in use, and differ in the proportion of the various ingredients used. Any blacking which will retain its oily consistence of a paste when exposed to the air, is superior to that which dries and becomes harsh. An excess of blacking is injurious to the leather on account of the acid present. For the production of a polish, a fine, soft brush is necessary, as a coarse one will scratch the polish. The last few years, a superior description of shoe polish (of which there are many manufactures), is sold in ornamental glass bottles by every shoe store and grocery store in the country.

BLUEING.—An article used in washing clothes to avoid their yellowish tint, and give them a whiter color. Indigo is the original form, but Prussian blue dissolved in water by means of oxalic acid is generally used in the manufacture of liquid blue. Spanish Float Indigo is a high grade of indigo in lumps. Blueing is sold in many forms, especially since the introduction of the aniline dyes, which are largely used for the same purpose. Liquid blue is very apt to freeze, and should therefore be kept in a warm place to prevent the bursting of the bottles. It is sometimes prepared from the acid solution of indigo, and neutralized by the addition of carbonate of soda. It is sold in both liquid and paste forms, as well as in the powder.

BOLOGNA SAUSAGE.—An article of food which takes its name from the town of Bologna, in Italy, where it was first produced. It is properly made from bacon, veal and pork suet, chopped very fine and packed into a skin. The common imitations, made and sold so extensively in this country, are without the slightest suspicion of veal, and consist mainly of tough and unsaleable beef taken from cattle too thin to cut up for market.

BONDS OF SURETY. — Business, in these days, cannot possibly be done too cautiously. Every retail tradesman should therefore require from his clerks and cashiers, book-keepers and managers, bonds of surety; by which means many difficulties would be avoided. [For Business Forms, see Appendix.]

BORAX.—This is a combination of boracic acid and soda, and was formerly found abundantly on the shores of lakes in Thibet, Persia and India; in South America, and on the lakes on the Pacific coast. Of late years, however, the large deposits in South-eastern California and Nevada are the chief sources of our supply. Borax

is a white salt, of a sweetish alkaline taste. The important practical uses to which borax is put are almost innumerable. It is used in soldering, as it dissolves any oxide that may be on the surface of iron or other metal, thus presenting a clean surface which enables the solder to take effect; it is used as a substitute for, and in the manufacture of, soap; it replaces washing soda in the kitchen; is used as a preservative agent for butter and other food products; is the chief element in shampooing liquids for cleansing the hair; is a powerful ingredient in many medical preparations, and is destructive to moths, ants, cockroaches and other vermin.

BORAX SOAP—Is a manufacture the main element in which is borax, and is the oldest and best known of our medicated soaps. There are, of course, many imitations, some of which are merely white soaps, with only just sufficient borax to justify the title.

BRANDY.—A liquor obtained by distilling the fermented juice of the grape. In Europe, very little brandy is made from the pure grape, most of it being distilled from various wines. In the United States, it is distilled from the fermented juice of other fruits, such as the pear, apple, cherry and peach; and also from rectified whisky made from Indian corn, flavored by the addition of acetic ether, oil of cognac, tannin and burnt sugar (to give it a color). Large quantities of inferior whisky are exported to France from this country, and returned, after manipulation, to our ports as a sort of fictitious foreign brandy. In France, rum, beet-root spirits, and spirits from potatoes, are largely used in its manufacture. Brandies are distinguished as pale and dark. When first distilled, the liquor is colorless, the pale amber tint it acquires being derived from the wood of the cask in which it is kept. New brandies are made to resemble old brandy by the addition of burnt sugar or other coloring matter. The best brandies are those obtained from the regions of Cognac and Armagnac, districts of France; but a large proportion of those brands sold under that name are mere imitations.

BRAWN.—A preparation of meat made from the head and belly-piece of a young pig, with the addition of ox-feet to make it gelatinous. It has long been a well-known dish in England, and has come into this country as a new article in canned meats.

BRAZIL NUTS.—These grow on large trees in Brazil and Guiana; a number of them laid over each other in a regular manner in a large seed vessel (shaped like two bowls closed together) as large as a man's head, and so hard that a blow from a sledge hammer is required to break it. The seeds (or nuts as they are called), are wrinkled and of triangular shape, with a hard shell and pure white kernel, of agreeable taste. They yield a large quantity of oil, which is used in South America for illuminating purposes. They are

also called Cream nuts and Para nuts. The annual consumption in the United States amounts to about 3,000,000 pounds.

BREAD.—Bread made from wheaten flour forms the chief article of food throughout the civilized world. There is also *Rye bread*, made from rye flour, which is darker and coarser than wheaten bread, and used principally by the German population; *Corn bread*, chiefly used in the Southern States, and eaten by the negroes in the form of *hoe cake*, etc.; *Graham bread* or Brown bread, which in England and this country is made from unbolted wheat flour, or bran and flour mixed, is considered very healthy; and *New England* or *Boston Brown Bread*, made from a mixture of crushed rye, molasses and other ingredients, forming a coarse, dark brown bread. Alum is sometimes added to flour, in the making of white bread, to increase its weight, as the alum retains a large proportion of water; a mixture of potato starch and boiled rice is sometimes added for the same purpose. Alum may be detected in bread by dipping a piece in a weak solution of logwood, when a claret color will be produced if alum is present.

BRETZEL.—A hard, brittle roll of bread, frequently misspelt Pretzel, twisted into the shape of the letter B, and commonly used by Germans in this country and in Germany, who eat it with their beer.

BRICK TEA.—A term applied to tea shaped, by heavy pressure, into cakes, divided by indented lines into small squares, which are easily separated, and which expand when immersed in boiling water. It is claimed that tea in this form is compact, specially adapted for shipping and handling, and preserves its aroma more effectually. It has only recently been introduced into this country, but is not looked upon favorably, because of the readiness with which it could be adulterated, and the difficulty of detection.

BROMA.—A nutritious, agreeable and favorite preparation for the breakfast table, made from the cocoa beans. Its chief feature is in the preservation of the aroma and soothing qualities of the cocoa bean, without the excess of fatty deposit found in some of the preparations of cocoa.

BROOMS.—These useful domestic utensils are made of various materials; but most commonly of broom-corn straw, a species of sorghum, introduced from Africa. The seeds are combed out by machinery, and the handles vary from the cheapest to the most expensive woods. For their quality, the brooms depend not alone upon their material, but on the way in which they are put together. They should be securely fastened and wrapped with from two to six ties of twine or wire—the more the better. The corn should be clean and

tough. A broom has been recently patented, which has a detached handle, affording great facility for packing and shipping. There are also *patent frames* or *broom racks*, for the convenience of retail dealers in displaying the brooms in their stores—a great improvement on the old-fashioned method of stacking them in old flour barrels.

BRUSHES.—Brushes for domestic use are made from coarse hair, hogs' bristles, strips of whalebone or short wire, and fastened to a handle, either in one bunch or in separate tufts. The smallest brushes (and *pencils*) are made from the hair of the camel, badger, squirrel, goat, etc. Hogs' bristles are, however, the principal material used; the white and better kinds being employed for hair, tooth, clothes and hat brushes, and also for the better class of paint brushes. The bristles are first selected according to color, and then arranged as to size, by passing them through combs of various widths. The paint brush, which is the simplest form of brush, is made by inserting full-length bristles between two projecting prongs in the handle, and securing them by a wrapping of twine, which is afterwards protected by a coating of glue and red lead. Hair brooms and dusters are made by inserting tufts of bristles into a stock or head previously drilled with holes for their reception, the bores being triangular in shape. The root ends of the hair tufts are dipped into melted pitch, then bound with thread, and again dipped, and then inserted in their respective holes with a screw-like motion. This description of brush is usually made with full-length bristles; but where stiffness and strength is required, as in shoe, scrubbing and similar brushes, the tuft of bristles is doubled, so as to present both ends outward, and are then cut off square and even. The holes are drilled through a pattern board to insure uniformity. The tufts are fastened in their places by a loop of brass wire. The drawing wires are then covered with veneering, to strengthen and improve the appearance of the brush; and when it has been finished off, sand-papered and varnished, the article is ready for sale. Brushes are also made by machinery. Woodbury's brush-making machine will make an ordinary scrub-brush in one minute; and as in these the holes do not pass through the wood, no back is required.

BUCKWHEAT.—This cereal is an annual plant, with a purple stem from two to four feet high. It was first grown in Asia, and afterwards introduced into Spain by the Moors, but is now largely cultivated in the temperate regions of Europe and America. The plant is comparatively hardy, grows well on poor soil, and matures rapidly. It is sometimes raised for ploughing under as a manure, and for its flowers as a bee pasture, though the honey is inferior; but its principal use is in producing flour from the seeds from which, in Germany and Poland, a popular gruel is made; and in the provincial parts of France, it is made into a dark bread and cakes.

The grain is of a triangular shape, and produces a dark flour of rather rank and bitter taste, which in this country and England is used in the manufacture of breakfast cakes or buckwheat cakes, as they are commonly called. It forms an extremely nutritious diet for winter consumption, but if used to excess, is apt to cause eruptions on the skin. The demand springs up very quickly with the first frosts of winter, and ends with the approach of warm weather in the spring. It is mixed with middlings to diminish the strong taste of the buckwheat, to make the dough lighter and sweeter, and to make the cakes brown more readily on the griddle.

BUSHEL.—A measure containing four pecks, or thirty-two quarts. The legal bushel of the United States contains 2150 $\frac{1}{2}$ cubic inches of distilled water, weighing about 77 $\frac{1}{2}$ pounds. The legal measure of various articles of merchandise is determined by weight. [See Tables of Weights and Measures.]

BUTTER.—Was used by the Hebrews as a food in the Biblical times; but by the early Greeks and Romans only as an ointment; and even at the present day, it is rarely used in the countries along the Mediterranean, being sold chiefly by the apothecaries. The factory system of cheese-making—and its immediate outgrowth, the creamery system of butter-making—have very greatly improved the quality of the butter made in the United States. It is a very sensitive article, and absorbs any odor or flavor with which it comes in contact, and must, therefore, be kept in a cool, dry chamber, where it will be free from all such damage. The taste and smell of rancid butter is due to the butyric acid which forms as it grows older. As will be seen in the weekly Price Lists of the NEW ENGLAND GROCER, the lump butter leads the market, and always commands a good sale, after which creamery, dairy, factory, dairy packed, and baker's butter (as it is called), take their places in public estimation, in the order we have named. There is no article of more vital importance to the retail grocer than good butter; but the great difficulty is in maintaining a standard grade in home-made, as it is only in the *factory-made* article that perfect uniformity can be ensured. Butter is the fatty substance extracted from milk; the milk used in this country being solely that of the cow. The composition of the milk and cream, and consequently the quality and flavor of the butter, depends upon and varies with the breed, age and feed of the cow—all of which circumstances must be taken into consideration in the making of butter. When milk is allowed to stand, the globules of fat rise to the surface and form a layer of cream. The component parts of cream may be thus tabulated:—Butter, 33.43 parts in 100; caseine, 2.62; sugar, 1.56; salts, 0.72; water, 61.67. To procure the cream for the manufacture of butter, the milk is placed in a cellar, the temperature of which is from 55° to 60° Fr. The cream having risen (the opera-

tion taking from twenty-five to thirty-six hours), it is skimmed off and put into a stone jar until sufficient is accumulated to perform the process of churning. Special care should be taken not to keep the cream too long, as it impairs the quality of the butter and gives it a cheesy taste. The process of churning consists in the violent agitation of the cream by the action of a dasher, which causes the fat globules to unite, and finally to entirely separate from the watery residue, which is called butter-milk. No other form of churn has yet been invented superior to the old-fashioned dasher-churn. The operation of churning occupies from forty-five minutes to one hour. If the butter comes sooner, it is apt to be frothy; and if much longer, it acquires a very disagreeable flavor. The butter is then washed in cold water, thoroughly worked or kneaded to expel the water, and made into rolls or moulded into prints, when required for immediate use. If it is to be kept for some time, it is packed in stone jars or wooden firkins (the latter being preferable for shipping), and containing 56 or 100 pounds of butter in each vessel. About one ounce of salt (the purest made, either Ashton or Syracuse, made expressly for dairy use), should be used to every pound so packed; sugar and saltpetre are added to increase its keeping qualities. The leading butter factories adopt the following rule:—For every 22 pounds of butter, 16 ounces of salt, one teaspoonful of saltpetre, and a tablespoonful of the best powdered white sugar. Butter made from the milk of cows fed on rich pasture is of a deep yellow color; consequently poor and inferior butters are frequently colored with annatto, tumeric or carrot juice. The average quality of manufactured butter contains 83 per cent. of pure fatty matter, 12½ per cent. water, 3½ per cent. common salt, 1-60 per cent. sugar of milk, and 1-40 per cent. of caseine and albumen. The ordinary way of adulterating butter is by adding a large quantity of salt, so that it may absorb an excessive amount of water, and also increase the weight.

ARTIFICIAL BUTTER—Or oleomargarine, will be considered in its proper place.

BUTTERNUT.—This article of dessert is the fruit of the *juylaus cinerea*, a beautiful tree of from twenty to thirty feet in height. The fruit is oblong and clammy. The nut is thickly furrowed and sharply ridged, and about two inches in length. The kernel is sweet and pleasant, but from its abundance of oil, soon becomes rancid unless well dried. The half green fruit, gathered in June, and with its down removed, is used for making pickles.

CABBAGE.—This descriptive name includes a large number of vegetables, differing not only in appearance but in quality, such as Cauliflower, Kale, Brocoli, Brunels, Sprouts, etc. Of the common cabbage, there are numerous varieties differing but slightly, and

generally grouped in two classes, viz., the *early* and *late* cabbage, according to their time of ripening. Of early cabbage, the best are the Early York, Jersey, Wakefield and Early Winningstadt. The principal late cabbages are the Drumhead, Flat Dutch, Mason, Drumhead Savoy and Red Dutch. The cabbage is a biennial plant; during the first season perfecting its growth, and in the second the seeds are produced, and the whole plant perishes. As an article of food cabbage is not very nutritious, but eaten cold in the form of a salad it is very wholesome. Large quantities are consumed by the Germans as *Sauer Krauts* [which see]. The solid part of the cabbage-head is often cut into long shreds and eaten raw, with seasoning or mustard dressing, as "*cold slaw*." Red cabbage is generally used for pickling.

CADDY.—A small chest or box for keeping tea. Many grocers re-pack their teas in such caddies, which are made in various small sizes, in imitation of Chinese chests, and are shipped in nests (one inside the other).

CAMPHOR.—This is a concrete, volatile product, obtained from different plants, especially those of the Laurel family. The greater portion of the camphor of commerce is obtained from the Camphor laurel or Camphor tree; a native of China, Japan, Formosa, and later introduced into the West Indies and Java. The tree grows to a large size, has evergreen leaves, yellowish white flowers in panicles or tufts, and a fruit somewhat resembling a black currant. All parts of the tree possesses the odor of camphor, and yield this article when cut into small pieces and distilled. *Borneo* or *Sumatra camphor*, known as Hard camphor, is obtained from a tree native to those places. It is found in its fissures and cavities in a solid state, and can only be got at by felling the tree and picking out the fragments of the gum in small pieces. Each tree yields on the average about twenty pounds weight of camphor. It is of much better quality than the common camphor, for which reason it is seldom seen in Europe and America, but is reserved for home consumption. The same tree produces, when young, a pale yellow liquid known as oil of camphor, which is generally supposed to be the camphor in its incipient or immature condition. It is considered extremely valuable as an external remedy for rheumatism. Camphor has a somewhat bitter and pungent taste; a strong, pungent and penetrating odor which is extremely noxious to troublesome insects; and it is much used in preserving specimens in natural history, clothing, furs, etc. When exposed to the air it rapidly vaporizes; it is highly inflammable, burning with considerable smoke and flame. It is used in medicine both internally and externally as a stimulant; in small doses as an anodyne and antispasmodic; in large doses it is a narcotic poison. Its alcoholic solution, and the various liniments of which it

forms a conspicuous part, are much used as external applications for spasms, bruises, chilblains and chronic rheumatism. The importations of crude camphor into the United States aggregate nearly 1,250,000 pounds annually.

CANARY-SEED.—The seed of the Canary grass, which grows in the Canary Islands, has been naturalized in Europe and Great Britain where it grows abundantly, and is more sparingly cultivated in the United States. The seed is used as the food of cage-birds. In the Canary Islands it is used as an article of food by the natives, as it contains a large quantity of farina which is very nutritious. It is largely mixed with rape and other seeds to cheapen it, but the unadulterated article is much preferable for the purposes designed. A fine flour is made from this seed which is employed as dressing in fine cotton goods, and for finishing of silken fabrics. The importations of Canary-seed amount to more than 50,000 bushels annually.

CANDLES.—Before the introduction of gas and petroleum oil into common use, candles were the common household lights. They are still used to a very considerable extent, because they are the safest and most convenient form of portable light. They are made of tallow, paraffine, wax and spermaceti, and are sometimes colored with aniline dyes. They were formerly prepared chiefly from tallow and spermaceti, by the process known as dipping. The wicks were first dipped into the warm liquid tallow until saturated, and then lifted and hung upon frames until cold, when they were again dipped, and the process continued until the desired size was reached. This process has been replaced by that of moulding, in which the melted material is poured into moulds of glass, tin or metal, in the centres of which the wicks have previously been stretched. The *tallow candles* are the most common form, as they are more easily and cheaply made, but they burn away so much more rapidly, that other forms of candles are really less expensive. *Adamantine candles* are made of tallow from which the glycerine has been extracted by chemical process, leaving only the pure stearine. These are very excellent candles, and great favorites with the public. *Paraffine candles* have of late advanced considerably in popular favor. It makes a clear candle, resembling wax, and gives a very good, pleasant light. A little stearine is usually mixed with it, as the pure paraffine is apt to droop or bend when warm. *Spermaceti candles* are made from spermaceti, which is formed in the cavities of the head of the sperm whale, and are the best candles in common use. *Wax candles* are much more expensive, but not much better than other grades of candles. They are difficult to mould, on account of the wax adhering to the inside of the moulds; they are consequently made by dipping, and by pouring the wax over the wicks, until a sufficient thickness is ob-

tained, and then forming the candle by rolling between marble or hard wood slabs. They are also sometimes formed by drawing them through a machine constructed for the purpose, in the same way as wire is drawn. It has, however, recently been found that wax candles may be successfully moulded by the use of glass moulds, which, when the candles are to be withdrawn, are dipped for a moment in warm water, which causes the glass to expand sufficiently to loosen the candles and allow of their being readily extracted. The character of the wick is of great importance in the manufacture of candles, and much care is needed to adjust the size of the wick to the weight of the candle, and to determine the character of wick which shall give the best results with each variety of candle made. An important discovery has recently been made by De Milly, that by soaking the wicks in a weak solution of boracic acid, the formation of a mushroom of unconsumed wick might be entirely prevented. The wicks are soaked for two or three hours in a bath, holding in solution one and a half per cent. of boracic acid, and one and a half per cent. of ammoniac sulphate, after which the wick is dried and singed in a lamp flame, to remove the little filaments of adhering cotton. This discovery has been of great importance to the candle-making industry, increasing, as it does to an immense amount, the value of the candles and the extent to which they are used. *Hotel candles* are merely the ordinary tallow candles, of about half the usual size.

CANNED GOODS. — The preservation of fruits, vegetables, fish and meats, by hermetically sealing them in cans, is by no means a new process; but the developments and improvements which have transformed that process into a vast and vitally important industry, is comparatively recent. During the Mexican war, it received its first impetus as a bona fide business in the United States, and during the Rebellion it expanded into a leading industry. To-day the list of articles preserved by canning are almost countless, and includes fish, meat, poultry, chowders, plum puddings, sauces, and fruits and vegetables of all kinds. Custom has done away with most of the prejudice arising from fear of poisoning, but there is great room for care in the canning of acid fruits or vegetables. Some goods are now packed in tin cans coated with paraffine wax, and the custom of soldering on the outside only is now very general. Most articles, when properly canned, are kept in as good a condition as when fresh, and in the case of lobster and crab meat, the advantage is very marked on the side of the canned article, as the lobsters and crabs which are carried to the cities and crawl around in the sun for hours, are generally half-dead before they reach the consumer; and, as Paddy says—"they have to be killed to save their lives!"—while the tinned meat, being prepared in the neighborhood of where they are caught, is firm, fresh and in full flavor. The immense consump-

tion of canned salmon all over the world shows how well fish can be packed.

Domestic canning has become an indispensable part of household economy; but the canning for market has now grown to be so absolutely essential to the existence of the Produce, Provision and Grocery sections of American commerce, that without it, her trade in these productions, both for export and home consumption, would be speedily annihilated. In canning for market, the division of labor is so nicely adjusted, and the employment of machinery so extensive and complete, that the cost of the products and the time and labor expended, is brought to its lowest minimum. These factories generally put up a large variety of the legion of articles destined to undergo the canning process, so that operations can be carried on from years' end to years' end. In the prosecution of the process, the entire exclusion of air from the cans is the chief object, and all operations tend to that end. Of course a very large number of people are employed, and every operation has to be conducted with the utmost rapidity. A brief description of the process in the canning of fruit and sweet corn may prove interesting to our readers: In many of the peach canning factories for instance, the fruit is piled on the upper floor, thrown into hoppers, and conducted to tables on the lower floor, the cans being filled by placing them under the hopper and pressing the fruit in with the fingers. The cans are then passed to another table, where syrup — about one pound of sugar to a gallon of water — is filled in, and time given to allow the air between the peaches to escape. The cans are then cleaned from the syrup spilt on the sides and passed to the tinmen, who put on the circular covers, rapidly soldering them down. Each can has a small hole on the top to allow the air to escape, and after the cover is on this hole is soldered up. The cans are then placed in a rack and lowered into a tank of water, which can be heated by steam. As the temperature increases, the imperfect cans are detected by the escape of air, and are taken out. The water is then raised to a boiling point, which is continued for half an hour, more or less, according to the size and kind of the peaches. After being boiled, the cans are allowed to cool slightly, and are then vented by opening the prick-hole in the cap, which allows the steam to escape; and immediately closing it again, when the cans have cooled. If all right, the head will snap in by a slight pressure, showing that there is a good vacuum. The cans are then placed in the store-room, and labels put on them when sold.

In canning tomatoes they are first slightly scalded, so as to remove the skin, and when peeled are thrown into pans to allow some of the watery portion to drain off. They are then packed in cans, and a little syrup added, made of water, sugar and salt, and are subsequently sealed, tested and boiled as before described.

The canning of corn is more difficult, though similar in operation. The corn is boiled, cut from the cob, put into cans, and the spaces being filled with a little syrup of sugar and salt, the can is soldered tight. The cans are then boiled in a solution of chloride of calcium or refuse from salt-works. This solution has a much higher boiling point than water. After being boiled for several hours, the cans are taken out and vented, again soldered up and returned to the bath for another boiling of several hours' duration, when they are taken out and the process is complete.

Canned soups are put up by many of the most prominent packers.

The canning of shrimps is a very delicate process, but it has been brought to perfection.

The New England dish of baked beans is now very extensively canned.

Brawn [see article thereon], has been quite generally introduced to the trade, and meets with considerable sale to saloon-keepers.

The multitude of packers, and the great variation in the quality of goods packed, have caused a very general demand for a guarantee of one year on all canned goods. The subject has been persistently agitated in the NEW ENGLAND GROCER and the grocery press generally, and the leading packers of the country have agreed to guarantee their goods. Defective canned goods are known as

SWELLS—which, on account of their growing frequency of occurrence, are becoming of grave importance to those who handle canned goods, and we would warn grocers when they are making purchases not to omit to demand guarantees against the goods becoming unsound. The "Swells" are usually caused by imperfect cooking of the fruit in packing, so that the oxygen is not entirely expelled. Sometimes, also, they are caused by an almost imperceptible leak in the can which admits the oxygen. Whenever the grocer finds a "Swell" among his cans, he should take it for granted that it is unsound, and return it at once to the wholesale dealer without opening, who, in his turn, can demand a rebate from the packer.

The chief items in Canned goods, now having the "run of the markets," comprise : Corned Beef, Ox-Tongues, Potted Tongue, Potted Beef, Lunch Tongues, Turkey and Tongue, Boneless Turkey, Boneless Chicken, Roast Beef, Boiled Beef, Ox-Tail Soup, Chicken Soup, Ham, English Brawn, Green Turtle Soup, Pigs' Feet, Tenderloin, Potted Ox-Tongue, Potted Ham, Tripe, Kidney Soup, Minced Collops, Minced Steak, Clipped Dried Beef, Mock Turtle Soup, Improved Smoked Dried Beef (Boston brand), Rolled Ox-Tongue, Blue Cross Pickles, Queen Olives, Baby Olives, Potted Turkey, Potted Chicken ; Walnut, Tomato and Mushroom Ketchups ; Capers in three grades ; Apples, Apricots, Asparagus, Blueberries, Blackberries, Beans—Lima, String, Champion and Baker ; Sweet Corn, Cherries,

Clams, Lobster, Crab, Mackerel, Oysters, Plums; Peas—Marrows, Early June and Sifted; Pears, Peaches, Pineapples, Quince, Succotash, Salmon, Tomatoes, Raspberries, Strawberries, Sardines, Pumpkins, Squash, Standard and Extra Yellow Peaches, Standard Bartlett Pears, Dessert Fruits (assorted), and Horse Radish Flour.

CAPERS—Are flower-buds of the Caper bush which grows in countries along the Meditterrean Sea. They are put up as pickles, the smaller and better ones being packed in bottles, and the coarser ones in casks, and are extensively used as ingredients of sauces for boiled meats. The buds of one or two plants are sometimes substituted for capers. Copper is sometimes added to improve their color, although it renders them poisonous. Its presence may be detected by inserting a polished iron rod, the surface of the rod becoming coated with copper if it is present.

CARAMELS.—A species of chocolate candy, which is soft when fresh, but soon hardens. They are very nicely put up for the trade in tin boxes.

CARAWAY SEEDS.—The seeds of the Caraway plant are cultivated in Europe and America. They are highly aromatic, used as flavoring in cooking and confectionery, and are employed in the preparation of perfumes, scented soups and liquors.

CARBOLIC ACID.—This is a solid substance obtained from the products of Coal Tar by distillation. It is a powerful disinfecting agent, and, in its pure state, its use is entirely confined to the use or authorization of the medical faculty, being employed by them in various ways as a remedial agency. Mixed with other substances so that it may not be improperly used, it has become, under the title of *Impure Carbolic Acid*, one of the most effective and indispensable purifiers in the domestic circle. It can only be used externally, in the dressing of wounds, in the dispersion and correction of noxious effluvia, or in arresting the process of decomposition in decomposing vegetable and animal matter. Various preparations of this disinfectant are, or should be, found in all the grocery establishments of our towns and cities.

CARROTS.—The common Carrot is a biennial plant, a native of the East, but now naturalized in this country. It is cultivated for its root, which is used in soups and stews, and also boiled and eaten as a vegetable. The juice is sometimes employed on the farm to give color to butter. A French variety of carrot, quite small, is put up in cans and jars, and, to some extent, imported into this country. Carrots are also raised as food for animals.

CASAVA OR MANDIOC. [See Tapioca.]

CASSIA BARK—Sometimes called *China cinnamon*, is a tree growing from forty to fifty feet high, and cultivated in China and other Eastern countries, as well as in Brazil. The China cassia is the best of all the cassias. The bark is very similar to cinnamon, both in appearance and quality, but is thicker, coarser, and less sweet and delicate in flavor. As it is cheaper than cinnamon, it is largely used in its place, and also to adulterate the true article. Cassia bark is further distinguished from cinnamon by being more brittle and of less fibrous texture; it is not so pungent, and has more of a mucilaginous or gelatinous quality.

CASSIA BUDS—Are the dried flower-buds of the same trees which yield Cassia bark. In appearance they resemble cloves, the flavor being similar to that of the bark. The best come from China, and are rounder. The annual importation of cassia to the United States exceeds 1,750,000 pounds.

CASTOR-OIL.—*Oleum ricini*, is a fixed oil obtained from the Castor-oil plant. It is a native of Asia, but has become naturalized in most of the warmer parts of the earth. It varies much in size and habit; in Africa it is a tree, while in Europe and the Northern States of America it is an annual, varying from three to ten feet in height. It is often grown in gardens, where it is very ornamental. The seeds are about the size of a small bean, oval, the surface smooth, shining and beautifully marbled. The oil is obtained from the seeds by heat or pressure, or by both combined. It is of better quality when obtained by pressure without the aid of heat, and is then known as cold-pressed oil. The quality also depends upon the stage of maturity of the seeds, and the variety of the plant from which they are obtained. In India, large quantities are extracted by boiling the seeds; but the oil is dark in color, irritating and unfit to be used in medicine, though it is extensively used there as a lamp oil. When pure, castor-oil is of a light, yellow color, slightly viscid; the best being almost limpid; of nauseous odor and oily taste. The best castor-oil is one of the mildest of purgatives; in doses of one or two tea-spoonfuls it is a gentle laxative, while a dose of a table-spoonful will almost always open the bowels freely. The chief objection to its use is its repulsive taste, which some attempt to obviate by putting it into hot coffee or spiced syrup, or making it into an emulsion with liquor potassæ and spicing; others take it in soda water. It is also used, in some localities, as axle-grease. The manufacture of castor oil is carried on extensively at St. Louis, Mo., the beans being grown in Southern Illinois and Missouri.

CATSUP—Spelled also *Catchup* and *Ketchup*.—Properly the juice extracted from salted mushrooms, afterwards boiled in spice, but really made from tomatoes, green walnuts and other fruits be

side mushrooms—by boiling them till soft, passing them through a fine sieve and seasoning them to taste with a variety of spices and condiments. It is one of the most popular and pleasant sauces in our markets, and is sold either in bottles or in bulk.

CAULIFLOWER.—A variety of the common cabbage, of which, unlike the other kinds, the leaves are not eaten. The parts used are the flower-buds and the stalks of the plants, which have been transformed by cultivation into a compact, rounded head, of a white color and of delicate flavor. Besides being boiled for the table, they make excellent pickle, and are always found in the mixed pickles of the grocery stores. Two crops of cauliflowers may be raised in the season; one in June and the other in Autumn.

CAYENNE.—Cayenne Pepper is chiefly derived from two species of Pepper-plants, called *Caunum* and *C. frutescens*. It is an annual herbaceous plant, grows in very poor soil, and is cultivated in most parts of the world. It grows two or three feet high, and bears a pod of a conical form recurved at the end; green when immature, but bright scarlet or orange when it ripens. It is used in the green state for pickling and in medicine; when ripe, dried and ground into powder to make cayenne pepper. In England, the dried berries kept in the shops are called *Chilies*. In Mexico, and other warm countries of this continent, the Red-pepper is one of the necessities of life. The common people, living mostly upon vegetable food, use this stimulant freely, and it forms an accompaniment to every meal. The cayenne of commerce is shamefully adulterated with red lead and vermilion, or sulphuret of mercury, all deadly poisons. They are added to keep up the color and increase the weight. Ochres, salt, ground turmeric and rice are the other adulterating ingredients.

CEREALS—Are all the species of grass which bear grain food, such as wheat, corn, rye, oats, rice, etc.

CELERY.—The leaf stalks of this plant, when blanched (this process being required in order to be rendered more palatable, and which is accomplished by ridging the plants with earth until they become whitened), is used as a salad and an appetizer. The smaller or dwarf varieties are much superior to the large kinds. It is sometimes marketed as early as August, but reaches its prime late in the season—from January to March. Celery has a sweetish and aromatic taste, and if its health-giving qualities were known, would be much more widely used as an article of food.

CHALK.—Chalk is a soft, pliable, earthy mineral, consisting chiefly of carbonate of calcium. It is imported from England, and principally used for educational purposes, such as marking on the

blackboard, drawing crayons, etc. They are made into the latter form by the addition of wax, various pigments, etc.

CHAMPIGNONS.—The French name for mushrooms, which are canned and imported into this country from France, where mushrooms are much more generally appreciated, more extensively used, and more carefully cultivated than in this country.

CHARGES.—These items in the wholesale dealer's bill often lead to considerable dispute, but a tradesman of ordinary business ability should understand positively whether he buys his goods in the store, or delivered in the depots, or freight free to their destination. The charge of portorage or hauling to the depot is usually a fair one, although the rate is sometimes open to question. Merchants should be exact and reasonable in making charges, and then adhere firmly to them, because if quickly waived, the retailer is convinced that they were unjust; and retailers should never dispute them unless certain of their ground. Grocery goods are generally sold in store, and, when extra packages are required, they are usually charged.

CHEDDAR.—A name derived from the cheese originally made in Cheddar, England, and in the United States' markets is used by the trade to designate a small, high cheese.

CHERRIES.—Cultivated cherries are of many varieties, and come of two distinct species, both of which are found growing wild in the woods of England, and is acclimated in this country. They are eaten both raw and in the cooked state. In the forests of France they are made the ingredient of soup. They are also put up in cans, or, being stoned and dried, become the *pitted cherry* of commerce. The most esteemed variety of this fruit is the *wax cherry*, a beautiful cherry of light color, with rosy cheeks, about the size of the ordinary red or black cherry, named from its beautiful waxy appearance. They generally arrive in market in May. Cherries are a very useful dessert fruit, and are used in pies and puddings. Many liquors are made from or flavored with them—such as cherry brandy, kirsch-wasser, ratalia and maraschino, and are also applied to medicinal uses, for cough mixtures, etc. They are dried and canned extensively for export trade and home consumption.

CHEESE.—Cheese is the compressed and of coagulated milk, caused by the addition of some acid (usually a rennet), separating the curd from the whey, and pressing it in suitable moulds. Coloring matter and salt is added in the process of manufacture. Very great care is needed to preserve the most perfect cleanliness in all parts of the process of cheese making—milk being such an extremely sensitive fluid as to absorb with the greatest readiness any taint with which it may come in contact, either in the containing vessels or

those that may exist in the air. The air of the dairy should therefore be pure and cool, and all vessels used should be scalded in boiling water as soon as emptied, and left to dry in the direct rays of the sun. After the cheese is pressed, it is taken to the curing room where it is rubbed thoroughly with fresh melted butter, and is then turned once a day, and repeatedly rubbed with butter until it is cured. The curing room should be kept at a constant temperature of about seventy degrees, and should be dimly lighted to keep out flies and avoid the chemical action of light upon the curing cheese, at the same time securing perfect ventilation.

Beside the "whole milk cheese," which is supposed to be the standard product of the dairy, there are many "skim-milk" cheeses made at the creameries and elsewhere in this country, in which the evening's milk is set and the cream skimmed from it in the morning and used to make butter, whilst the skim-milk is added to the morning's milk and made into cheese. Skim-milk cheese is also made from milk, all of which has been skimmed, but it is hard and of very poor quality. It is, however, very largely manufactured in England, and is used by the laborers in some countries as a substitute for, and to the almost entire exclusion of, meat.

Cream cheeses are sometimes made of pure cream, as the famous Neufchatel cheese made in France, of cream thickened by heat and compressed in a mould. It is esteemed a great delicacy, but is difficult to preserve in good condition. *Cream Cheddar* is made by adding the cream from one milking to the whole milk of the next, in the proportion of one quart of cream to ten of milk, and the whole is then treated much the same as in the process of making whole milk cheese, but is handled with still greater care; and when placed in the hoop is pressed by its own weight, only being turned four or five times a day until sufficiently firm to be bandaged and taken to the curing room.

All varieties of cheese are frequently colored, annatto being very commonly used to give an orange yellow color, while many English cheeses are given a greenish hue by the use of sage and various kinds of grass. All the foreign cheeses, however, have been successfully imitated by American manufacturers—the latter being in quality and flavor equally good with the original, and frequently very difficult to distinguish from the imported. Some of the most famous European cheeses are, the *Cheddar*; the *Neufchatel*, a French cheese made from pure cream; *Cheshire* and *Double Gloucester*, made from the whole milk; *Single Gloucester*, from half new and half skimmed milk; *Stilton* and *Wiltshire*; *Gouda* cheese is made in Holland by curdling the milk with muriatic acid instead of rennet, in order to exclude mites. *Edam* cheese is a firm, rich cheese, almost perfectly round, about the size of a cocoanut, and is painted red. *Limburger* cheese, mostly esteemed by Germans and Hollanders, is ripened by slow

heat during its manufacture. It has been estimated that in 1872, 2,000,000 pounds of Limburger cheese were made and sold in this country. *Pineapple Cheese*—A fine grade of cheese, generally imported and made in the form of that fruit. Dealers should tell their customers to cut a Pineapple cheese so that the upper portion will remain as a lid, while the inside is cut out as needed, preserving both the cheese and its shape. *Schweitzer* or *Swiss cheese* is a strong, tough cheese, largely made and eaten by our German-American people; it has a strong odor. The best Italian cheese is *Parmesan*, a strong skim-milked article. In France, *Roquefort* is the high grade. In Switzerland, *Gruyere* and *Neuchatel*—the later is made in half-pound size from goats' milk and imported while fresh; *Gruyere* is skimmed cows' milk flavored with herbs.

As an article of food cheese is very nutritious, but when eaten in large quantities it burdens the digestive organs, though when taken in small quantities as a condiment, it stimulates and aids the digestion of rich food and desserts. The amount of cheese produced annually in the United States is about 2,250,000 pounds—much the larger portion of which is made in factories, of which there are about 2,200.

The care of cheese in the store is often neglected. In warm weather they should be kept in a cool, dry place, and be frequently inspected and turned over in their boxes. If they show signs of swelling, it is well to pierce them with a wire to give vent to the gas, which can afterwards be expelled by gently pressure on the swollen portion. All mould or mites on the top of the cheese should be neatly scraped off, the surface rubbed with a little sweet oil afterwards; and if the loose sheet or plate which lies on the top and bottom of the cheese is damp, it should be replaced by a clean and dry one.

CHESTNUTS.—The chestnut is a handsome tree, found in Europe, Asia and North America. It attains a great size, growing to the height of sixty to eighty feet in fifty or sixty years. Its timber is very valuable, and is used for many purposes, making excellent casks, and being extensively used in this country in the manufacture of cigar boxes. The nuts are enclosed in a hard and prickly shell or burr, each burr containing from one to three nuts, compressed or flattened on one or both sides. Chestnuts form an important article of food in some parts of France, and also in many of the mountainous regions of Europe where wheat cannot be raised. The nuts are eaten either raw, steamed, boiled or roasted; they are sometimes kiln-dried, so as to preserve them for seasons of scarcity. Ground and reduced to a powder, they make a good bread; and thoroughly washed, they make a good substitute for chocolate. They ripen with the first frost, the chestnut flowering in June, and yielding fruit in October. The American chestnut is smaller and sweeter than the

Spanish chestnut. There is also a very small dwarf variety of the American chestnut called the *Chincapin*. Chestnut flour is called *Polenta*; is highly nutritious, and is cooked in the same manner as our Corn-meal cakes or *Pone*.

CHICORY.—This is a plant of the Dandelion family, growing wild in most parts of Europe, and, to a moderate extent, in America. Its root, for the sake of which it is cultivated, is like a large white carrot; after being washed and cut into pieces about half an inch long, it is kiln-dried and roasted, the same as coffee. It is then ground and used as a substitute for, and adulteration of, coffee. Even chicory itself, cheap as it is, is grossly adulterated with carrots, turnips, oak-bark tan, acorns, horse-chestnuts, roasted beans, black walnut or mahogany sawdust, etc. The importations of chicory, in its various forms into this country, amount to about 5,000,000 pounds per annum, at an average value of four cents per pound.

CHLORIDE OF LIME—Is a valuable disinfecting agent, and an absolute necessity in every household. When dissolved in the proportion of one pound to six gallons of water, and sprinkled about the house, it will disperse all offensive smells; will prevent decomposition in dead animal matter; and is also an efficient cleansing agent when applied as a lotion to wounds, ulcers and other open sores.

CHOCOLATE.—This article is prepared from the seeds of the cacao tree, a native of South America, Mexico and the West Indies. It is evergreen, and grows to the height of from twelve to sixteen feet. Its fruit resembles a cucumber, and is five or six inches in length and three inches in diameter, each pod containing from twenty to forty beans, arranged in rows, about the size of the sweet almond. The fruit matures for gathering in June and December. Before the Spaniards landed in Mexico, the natives made a sort of beverage of the seeds, flavoring it with allspice or vanilla. The Mexicans call this drink *Chocolat*, from which the term Chocolate is taken. The cacao beans are reduced to a paste, and mixed with sugar and a variety of spices, such as cinnamon, cloves, vanilla, etc., and moulded into cakes for eating. It makes a pleasant and nutritious drink when dissolved in milk or hot water. It is also extensively used in cooking, confectionery, etc. Cooking chocolate is made with little or no sugar, while for all other purposes, more or less sugar is always to be added. Good chocolate should be smooth in form, not gritty when broken, and should leave no sediment when dissolved. It is largely adulterated with rice meal, oat meal, flour, potato starch, roasted hazel nuts, etc., all of which adulterations may be determined by means of the microscope. It is colored with annatto and other dyes. The *cacao nibs* of commerce are the bruised and broken seeds of the cacao, but the mass is more difficult of solution than chocolate.

CACAO SHELLS.—Improperly spelled *Cocoa*, is the thin shell which covers the beans, and which is separated before they are ground and reduced to a powder. These shells are used as a substitute for chocolate, and are preferred by many people.

BROMA.—Is the name given to a certain preparation of chocolate.

The importations of the cacao bean, in its crude form, into this country (exclusive of the numerous fancy varieties of eating chocolate, confectionery, etc.), annually aggregate about 6,000,000 pounds, at a gross value of \$630,000.

CHOW-CHOW.—A mixture of pickled vegetables, of various kinds (cauliflower, capsicum, string-beans, gherkin, onion, etc.) in mustard.

CHOWDER.—A dish composed of fish, pork, onions, biscuit, etc., stewed together, and much appreciated on the New England coast, where clam-chowder and fish-chowder parties are acknowledged institutions. It now enters the trade as an article of canned goods.

CHUTNEY.—A condiment of East Indian origin, based on mangoes, and very highly seasoned with various spices. It is rapidly gaining public favor in the United States.

CIDER.—Cider is the expressed juice of the apple, whether fermented or unfermented, and is obtained by chopping them and grinding them to a pulp, and then by subjecting them to pressure in a mill, when a dark liquid is obtained, which almost immediately begins to ferment, and in a few days becomes the clear, amber-colored liquid known to commerce as "sweet cider." If great care is not taken to preserve it, it quickly turns sour, and becomes "hard cider." The best kinds of vinegar, known as "cider apple vinegar," are made directly from cider, by simply putting it in a warm place and allowing it to ferment. On purchasing cider, if the head of the cask is swollen by pressure from within, a hole should be bored in order to relieve the pressure and prevent leakage. It should be kept in the coolest part of the cellar, as otherwise it is apt to sour after being tapped. At a temperature of about 75° it will gradually become vinegar. It is sometimes made into an imitation of champagne, and actually sold for that article.

CIGARS.—Grocers, especially country dealers and those who handle wines in the cities, are adding Cigars and Tobaccos to their stocks. The brand, size and color of cigars are peculiar. The brand is generally the factory mark, each manufacturer having a myriad of brands. The sizes or styles are frequently confounded with the brand. They are designated by such terms as *Londres*, *Londres Chico*, *Conchas*, *Regalia Londres*, *Reina Victoria*, etc., signifying simply the

style of the cigar, without any reference to its quality. To indicate the color of a cigar there are four principal classifications, viz: Colorado-Claro, which is light brown; Colorado, a medium grade; Colorado-Maduro, a dark brown; Maduro, the darkest brown. The grade or selection of cigars appertaining to each size or style is represented by the marks, "flor," "flor fina," "superior," "primera," "bueno." As a general rule, "flor fina" indicates the first selection and "flor" the second.

CINNAMON BARK.—The tree from which this is taken is a native of Ceylon, but is now cultivated in South America and the West Indies. The whole plant of the true Cinnamon possesses the same aromatic properties as contained in the bark; the root yields camphor by distillation. The bark is stripped from the branches of four to five years' growth, and is from half an inch to three inches in diameter. The strips are placed one above another, in parcels eight to ten inches thick, and allowed to ferment, by which process the skin and green bark is easily removed, the inner bark, or true cinnamon, only remaining. It is then exposed to the sun, and as it dries, rolls up into the form of quills, the smaller being inserted into the larger, and the whole tied up in bundles. Good cinnamon is known by the thinness of the bark, the thinner and more pliable the finer the quality; when it is broken, the fracture is splinters. It has a fragrant, aromatic flavor, and is used, like other spices, in cooking and confectionery. Most of what is sold for cinnamon in our markets is really cassia. The amount of true cinnamon annually consumed in the United States, does not exceed \$4,100 in value, while that of cassia is about \$300,000, or seventy times the amount of the true cinnamon.

CITRON.—The Citron of our grocery stores is the preserved fruit of a tree produced in tropical climates, closely related to the orange and lemon. It is a native of Asia, but is extensively cultivated in southern Europe, and is raised to great perfection in the green-houses of the United States, though it is most generally seen in our markets in the form of cured preserves. The fruit is frequently as much as six inches long, some of the largest reaching nine inches, and weighing twenty pounds. It is of an oval form, uneven on the surface, and with a protuberance on the top. The rind of the citron is cured by first pickling it to extract the bitter flavor and absorb the oil; then it is boiled and immersed in a solution of sugar until it is entirely saturated, when it is placed on racks to dry. It is then packed in thin boxes (known as half and quarter boxes), for the market, ready for the consumer. It makes a delicious preserve, and the juice is used in much the same way as lemon juice, though it is less acid; it is an indispensable ingredient in fruit puddings and cakes, and is used to some extent in flavoring liquors.

CLAMS.—The most common shell-fish found along our sea coast, and universally considered as one of the greatest delicacies furnished us by the sea—the Clam from the shores of Narragansett Bay being considered the best. This is owing undoubtedly to the proximity of the Gulf Stream. The fact that thousands from all parts of the country—including the Presidents of the United States and other distinguished citizens—make pilgrimages annually to Rhode Island, shows that the flavor of this delicious bivalve is duly appreciated. The clam is dug from the sands of the shore, between high and low water, usually at a depth of from six to eighteen inches. The round clam or *quahaug*, is also largely used for food, although it is much inferior to the other descriptions. In a canned form, they have gone into extensive use, especially in the West. Little-neck clams are a favorite with canners, and are more generally used for that purpose than any other variety.

CLOVES—Are the flower-buds of the Clove-tree, a native of the Molucca Islands, but now cultivated all over the East Indies, West Indies, Guiana and Brazil. The buds are gathered by hand, or the trees are beaten with rods, so that they fall upon cloths placed under the trees to receive them; and they are either dried in the smoke of a wood fire or by exposure to the sun. The fruit, which is a dry berry and known by the name of Mother Cloves, contains the same aromatic properties as the buds, only in a much weaker form. Large, dark, well-formed Cloves are the best—those known as Amboyne Cloves being the leading article in the market. The quality of the Clove depends entirely on the amount of essential oil it contains, which, when extracted, is sold as the Oil of Cloves. The average consumption of cloves in the United States aggregates 1,500,000 pounds annually, of the value of about \$250,000.

COCOA OR CACAO—Is obtained from the seeds found in the pods of the cacao, a palm-tree growing along the sea coast of the tropical portions of South America. It is a very nutritious article of diet, and is prepared in several ways. The common *cocoa* or *soluble cocoa* is prepared by reducing the beans, shells and all to a paste, in which form it may be mixed with sugar, starch, etc., the same as chocolate. When the beans are shelled, bruised and broken into small pieces, they become the *cocoa nibs* of commerce. This is the purest cocoa which can be obtained in this or any market. The most palatable and lightest drink obtainable from cocoa is that obtained by making an infusion of the cocoa nibs in boiling water, in the same way as coffee is made. A similar infusion is made from the roasted shells of the beans, and by some this is considered a lighter and more digestible beverage than the other preparations.

COCOANUTS.—The fruit of the cocoanut palm is one of na-

ture's richest gifts to man. Without this tree, the islands of the Pacific Ocean would be uninhabited, and its inhabitants left to perish from hunger and thirst, without clothing and shelter. The solid portion of the nut is much esteemed and extensively used in making cakes and pies. When the fruit has attained maturity, the milk is absorbed or becomes hard, and forms the hard, white, solid albumen which we eat in this country. Each tree yields from eighty to one hundred nuts yearly, and will continue to bear for two generations.

DESICCATED COCOANUT—Is a patent preparation of cocoanut containing water, sugar and carbonate of soda. It is put up in packages and sold as shelf goods, and is largely used in making puddings and pies.

MACERATED COCOANUT—Is made by boiling the cocoanut until it is soft and almost fluid, and then canning it. It is used for a similar purpose as the other preparations—the main advantage of the desiccated and macerated forms being their great convenience.

COD-FISH.—Eight species of this fish are found in North America. The American Cod is found along the New England coast from New York to the St. Lawrence River. It is the most common food-fish, except Herring, Mackerel and Bluefish, and is taken in large quantities by the hook along the North Atlantic coasts and the Arctic seas. The fish vary in size from a few pounds to one hundred pounds weight, the average being less than ten pounds. One man has been known to take over five hundred cod in one day on the Banks of Newfoundland. They are used fresh, salted or dried, and, in the latter state, are usually sold by the quintal of one hundred and twelve pounds. Block Island cured cod-fish are considered the best, although much smaller than usually found in our markets, and bring considerable more per pound than any other. Massachusetts ranks first in its cod fisheries, Maine coming next. Gloucester is the great fishing port of the country. South-east of Massachusetts is a fishing bank known as George's Bank, from which we derive our Georgia Bank Cod.

DUN-FISH—So called from their color—are Cod-Fish cured by being salted and piled under salt grass for three months in a dark room; after which they are opened and again piled in a compact mass for a similar period.

COD LIVER OIL—Is the oil expressed from the cod's liver by cold-pressure, which is strained and rectified, and used as a remedy in pulmonary diseases.

COD TONGUE AND SOUNDS—Are frequently preserved in pickle, and sold in that form to the public. From the sounds, when preserved and dried, isinglass is obtained.

BONELESS COD—Is a form prepared for market by taking out

the bones and packing the flesh in boxes, either in strips or long rolls. A great deal of this stock is inferior in quality, and very frequently hake and haddock are substituted for the cod. Dried haddock may be distinguished from the cod by its lateral line being black, that of the cod being white. More than 15,000 persons are engaged in the cod fisheries in the United States; and from 40,000 to 50,000 in the trade between Canada and Newfoundland. The quantity of cured cod annually brought in by American ships is nearly 600,000 pounds, of the value of \$4,000,000.

COFFEE.—Coffee derives its name from *Caffa* or *Kaffa*, a province of Southern Abyssinia, where the plant grows wild, and has been used from the earliest times. In the latter part of the ninth century it is believed to have been introduced from Ethiopia into Persia, and into Arabia about the fifteenth century, and in 1554 the first coffee house in Europe was established in Constantinople. The first coffee house in London was opened in 1652 by a Greek, and in Marseilles, France, in 1671. Burton, an English writer in his "Anatomy of Melancholy," speaks of the Turks as having found by experience that this "drink helpeth digestion and procurereth alacrity."

The Coffee-tree grows and flourishes in all warm climates, varieties of the plant being found in Brazil, Peru, Central America, Java and Sumatra, Southern India, Africa (including Abyssinia, Natal, Gold Coast and Liberia), Arabia, Manilla, the Mauritius in the West India Islands and Islands of the Pacific. But Brazil in the Western hemisphere, and Java, Sumatra, Ceylon and India in the Eastern hemisphere, constitute at this time the great centres of the coffee production. Coffee is divided commercially into two classes, strong and mild. Strong coffee includes Rio and Santos, but more particularly Rio. East India coffees embrace all coffee raised east of the Cape of Good Hope, and, with the exception of Mocha, is principally raised on islands. They are Javas, Ceylons, Malabars and Madagascars.

The strong coffees, Rio and Santos, are a product of Brazil, a country which, although in its infancy, is to-day supplying more than one-half of the entire coffee-crop of the world. The coffee of Brazil varies greatly in size and color. Most of the Rio received here is a small-sized bean, varying in color from a light to a dark green, with something of a yellow hue, known as Golden Rio. In flavor it is peculiarly distinct from all other coffee grown, being very rank and strong. It is shipped from the port of Rio Janeiro principally. The principal ports of entry into the United States are New York, Baltimore and New Orleans. The coffee trade was formerly controlled by a few wealthy importers, through bankers, and sold to jobbers, who resold to the wholesale grocers throughout the United States. The Eastern coffee jobbers now receive Rio direct, and sell

or consign to our Western States, although some of the large western jobbers are now importing direct. The West and South are the great consumers of Rio.

Santos coffee is produced in the southern districts of the Brazilian Empire, and possesses, in a mild degree, all the characteristics of Rio, and its sale is conducted in the same manner. The total yearly production of Brazil amounts to a trifle over 550,000,000 pounds. Of this the United States absorbs the largest portion of the Rio export, while Europe takes about eighty-five per cent. of the Santos.

Mild coffees embrace all coffees, except Rios and Santos. Some of them are very rank and of positive flavor; they are sold separately or are mixed and combined in such a manner as to lose their individuality. The most prominent of all mild coffees is Java; this is raised on the islands of Java and Sumatra, and ranks first in the estimation of the coffee-drinking public of the United States. The mild coffees of South America actually excel the Java varieties in style and drinking qualities; and were it not for the all-powerful name of Java which they bear, they would not be recognized as even approaching pureness. Sumatra coffee is raised on the island of Sumatra, and is known commercially as Free Java's, because the Dutch government do not control its sale. Little care is taken in the cultivation and curing, and a large proportion is ground-stained, consequently it is a large, irregular bean, and drinks inferior. The Singapore Java grades have a very peculiar and disagreeable taste—a circumstance which will account for the fact that, although large quantities are imported, there is not a pound sold. The fact is that it is recolored chemically in New York and sold as Padang coffee.

Latterly, there has been imported into the United States what is called Plantation coffee—that is, coffee raised from fine selected seed on large private estates on the island of Java. Such estates, being under the best agricultural conditions, with unlimited capital and intelligent manipulation, produce a coffee which, in the cup, makes the finest drink ever produced; and, recently, some of our most enterprising coffee dealers have imported these coffees largely. Practically the demand for a brown Java is an American caprice, which has enhanced its commercial value two or three cents per pound, and this caprice is also directly responsible for the immense quantity of imitation brown Java at the present flooding the market. In New York City tons of such coffee are produced daily. This condition of affairs will last just as long as it is the exception, rather than the rule, for wholesale dealers to buy coffee on style and color, and neglect through carelessness (or rather ignorance), to roast and test samples in the cups after the manner of testing teas.

Mocha, the aristocratic coffee of the world, is grown in Arabia. The bean is very small and irregular in appearance, drinks hard, acrid and peculiar, and when roasted is one of the most unsightly

coffees grown; invariably "quakery," owing to the intense heat prevalent where the coffee grows. Vast quantities of Malabar and small bean Ceylons are shipped to Alexandria, matted and exported as genuine Mocha. The imports of Mocha received into the United States average 15,000 bales annually, only about one-half of which is of Arabian growth.

Ceylon coffee takes its name from its place of growth, and is the great rival of Java in the East, but most of it goes to England. It is a very solid, oily bean, transparent in color, and is largely consumed in England. Native or common Ceylon is raised on the lowlands, resembles in size and color of bean Maracaibo, but lacks its strength. It is poor, drinks weak, and roasts "quakery," from the numerous blighted or undeveloped beans.

Maracaibo coffee is a product of the northern part of South America, being raised in Venezuela. Probably no coffee raised is sold under such false colors as this. It has been found to be an excellent substitute for Java, and also for mixing with Java, and its use for this purpose is fully recognized by the trade. The United States consumes five times as much as there is imported into the United States. Maracaibo coffees are packed in a peculiar bag made of string, resembling a fine net, the contents being plainly seen through the meshes.

Jamaica coffee is grown on the island of Jamaica, and is much superior to any variety grown in the West Indies; it possesses fine aromatic qualities, and is very popular with intelligent coffee dealers. Blue Mountain Jamaica, which certainly possesses as much merit as any coffee raised, is a solid, heavy, oily bean, almost transparent in color, will, when roasted and ground, make a delicious and fragrant cup of coffee. It is usually packed in barrels and casks, and, with the exception of Plantation Ceylon, is the only coffee so exported.

The more prominent coffees of Central America are Nicaragua, San Salvador, Guatemala and Costa Rica—all of which are frequently sold as Costa Rica, which has a peculiar, positive flavor; is dark liquor in the cup, very strong and acid to the taste; the bean is green, semi-transparent, large and flat; has many attributes of other coffees, especially Mocha, and, if carefully selected, would make a coffee of high rank.

Mexican coffee has shown a marvellous improvement in the last few years. Five years ago the demand was very limited, owing to its poor drinking qualities; but these have now disappeared, and some exceedingly fine coffees are being received from Mexico, ranking equal to any of the South American mild grades.

African coffee is a small-sized bean, gnarly and unsightly in appearance, and, like Libemian, drinks strong and rank, possessing no fine qualities, and consequently is very unsaleable.

Manilla coffee is only occasionally imported into this country,

possesses no recommendatory qualities, and drinks like many of those mysterious package-preparations labelled coffee.

SKIMMINGS.—This variety is literally what its name indicates; the process of obtaining it being as follows:—A greater or less portion of each cargo is found upon arrival to be damaged by dampness, discoloring the bean, and rendering it mouldy and musty. That portion of the cargo packed along the sides and top of the hold are more or less stained, and can be easily detected by the outward appearance of the bag or mat. These are cut open, and the damaged beans are skimmed off; the remainder are then rebagged and sold as sound coffee, although it is an open question whether they can be considered as such. Many good judges maintain that, as coffee is very susceptible of outside flavors, the odor of the mouldy beans penetrates through the whole bag. The skimmings of Java, after being rebagged, are classified and marked by a small stencil or brush on one corner of the package, as follows: G. S.—signifying good skimmings; P. S.—poor skimmings; S. S.—stone sweepings. In appearance good Java skimmings show very little damage. In fact, unless closely examined, would pass for sound coffee, and sell readily for from two to three cents per pound less than the straight goods. Usually the demand is in excess of the supply, and this is met by using Singapore Java (an exceedingly offensive description), and coloring South American mild coffees by sweating, taking care to sprinkle in a few damaged or black beans in order fully to stamp them as skimmings. After roasting, it is impossible to detect these goods from sound coffee by their appearance. It is very rare to find a lot that in the cup does not develop musty flavors.

[Under the head of “Adulterations,” we have enumerated the various ways in which coffee is sophisticated, to which we refer our readers.]

The shrinkage of Coffee by roasting averages from 15 to 16 per cent.; extremely green lots losing 18 per cent., while a very old coffee will not lose more than 12 or 13 per cent. The roasting process will develop in every coffee a certain amount of what are termed “quakers,” viz: beans, which, while on the trees become sun-dried—the oil, which is the essence or flavor of the coffee, evaporating, and leaving nothing but the lifeless berry behind; they roast white and are perfectly tasteless. After roasting, coffee deteriorates by exposure to the air, and should be kept in air-tight cans. It will be injured by absorbing the odor of other substances, such as pepper, cinnamon or any particle of an aromatic character. Simple as it may seem, the process of grinding the roasted bean is one that requires much more attention than is now given to it. Coarse ground coffee requires protracted boiling to extract its strength, and much boiling is fatal to a good cup of coffee. While one may grind too finely, the mistake of grinding too coarsely is the one most generally made. Just to

what degree of fineness it should be ground, depends somewhat on the manner of making the coffee.

The annual consumption of Coffee in the United States is *eight pounds* per head; in Holland and Germany, *fourteen pounds* per head; and in England, only *one pound* per head. The total amount of coffee imported into the United States annually may be stated in round numbers at 330,000,000 pounds, and its value nearly \$60,000,000—the consumption for the same period amounting to about 325,000,000 pounds, at a gross value of \$55,000,000.

Coffee contains valuable medicinal properties—among others, that of producing wakefulness—hence its usefulness as an antidote in cases of narcotic poisoning. Coffee has frequently been found the best form of stimulant for administration to persons rescued from starvation or perishing by cold; and this is the more noteworthy, as ardent spirits, given under the same conditions, often prove fatal. How often we hear the significant remark—"I can make my breakfast off a cup of coffee."

Captain Parry, when on his Arctic expedition, put his star-board watch on *coffee*, and the port watch on *rum*; and the result was that, in the course of time, the coffee watch was found to possess a vigor of health entirely wanting in the other. As late as 1835, during a fearful epidemic, the physicians of New York signed a public manifesto, urging the public to abstain from beer and intoxicating liquors, and drink *pure coffee*, in order to keep the system healthy and render it less liable to disease. From all quarters, testimony without limit, might be accumulated to the same effect.

As a disinfecting agent, roasted coffee is invaluable; it is useful to purify any place having an offensive smell or foul air. The coffee beans should be roasted in the vicinity of the room to be fumigated, and when brown and while hot, placed in the centre. By the time the coffee is cooled, the room will be rendered thoroughly pure and sweet.

COFFEE EXTRACT.—A patent compound, very seldom made from, or containing any pure coffee, which is extensively used in cheap boarding-houses by mixing it with the real article. It naturally enjoyed a better demand when coffee sold at thirty-five and forty cents, than at its present reasonable price.

COFFEE ESSENCE.—A very strong infusion of coffee mixed with chicory and burnt sugar until it is about as thick as molasses. It should be kept in well-corked bottles.

COMPRESSED YEAST.—The most powerful of all fermenting agents is, in this country, comparatively a new yeast, and specially designed for the convenience of housewives who make their own bread—it having been introduced from Germany some twenty years

since, by Galt, Fleischman & Co., the manufacturers, still maintaining and increasing its popularity.

CONDENSED MILK—Is an essential article for travellers and settlers in the more sparsely populated sections of the States, and has proved a great luxury and convenience to the inhabitants of our towns and cities. It is very extensively used on shipboard, no steamer or vessel's larder being considered complete without a full supply of the most valuable brands. It is thus manufactured: When the milk is brought into the manufactory, it is carefully strained, placed in cans or pails, which are put into a tank of water, kept hot by steam coils. When hot it is transferred to larger steam-heated open vessels, and quickly brought to a boil. This preliminary heating and boiling has for its object the expulsion of the gases of the milk, which would cause it to foam in the vacuum-pan, and also to add to the keeping quality of the milk by destroying the mould germs. A second straining follows, after which the milk is transferred to a vacuum pan, where, at a temperature of 160° F., it boils, and is rapidly concentrated to any degree desired. The vacuum pan employed is a close, egg-shaped vessel of copper, about six feet high and four and a half feet in diameter. It is heated by steam coils within and a steam jacket without, enclosing the lower portion. In one side of the dome is a small window, through which the gas illuminates the interior, while on the opposite side is an eye-glass, through which the condition of the contents may be observed. The pan is also provided with a vacuum gauge and test sticks.

Much of the milk used in cities is simply concentrated without any addition of sugar. The process of concentration is continued in the vacuum pan, until one gallon of milk has been reduced to less than a quart—one part of condensed milk being equal to about four and three-tenths its bulk of milk. Condensed milk, intended to be preserved any length of time, has an addition of pure cane sugar made to it during boiling, and is usually put up in sealed cans. This sugared, or "preserved" milk, will keep for years. It is especially recommended for invalids and infants use, and is adapted to all domestic purposes for which milk is essential.

CONFECTIONERY.—This term necessarily includes candies, and all preparations which have sugar for their basis or principal ingredient. Under this definition jams, jellies, pastes, etc., would properly be included; but we shall only notice those which come under the designation of candies, sweetmeats, etc., which now constitute an extensive industry. All the various kinds of candy may be brought under the general divisions of stick candy, as follows:—

MIXTURES.—Machine-work, such as the fancy shapes of clear candy, cut or moulded into the shape of animals and various figures.

LOZENGES—Which may be considered a special class of machine-work.

HARDS OR COMFITS—Which consist of a nut kernel, or other suitable article enclosed in a sugar coating.

FRUITS—Which include all the ways in which fruits can be preserved—crystallized, candied, juices and essences mixed with the sugar, or enclosed in a capsule, etc.

GUMS OR PASTES—Including such candies as gum drops, marsh mallows, etc., based on gum arabic or some other gum.

CREAMS—In the caramel and other forms in which chocolate, fruit essences, vanilla, etc., can be incorporated.

PAN WORK—Which includes taffy and other candies made in large, flat cakes.

All these different varieties have sugar as their base, other ingredients being added to give flavor and consistency.

SUGAR CANDY—Is prepared from a solution of sugar, boiled to the point of crystallization. It may be prepared from either brown or refined sugar—to the latter cochineal or some other coloring ingredient being added. These solutions, when boiled to a proper degree, are poured into moulds, across which at sufficient intervals are stretched pieces of string. The sugar gradually crystallizes from its solution on the sides of the mould and on the strings—the apartment being meantime kept at a temperature of 90° to 100°. Sugar drops are made from fine sugar, mixed with a small portion of water, and coloring and flavoring matter as desired. The mixture is dissolved by heat but not allowed to boil, and is then poured in separate drops on a sheet of paper on which they quickly set and harden.

What is termed boiled sugar—that is, sugar which has boiled until by cooling and hardening it assumes a glassy appearance and fracture—is the basis of another variety of confectionery. Of this class, *barley sugar* is the type and simplest example. It merely consists of sugar boiled as described, flavored, cut into strips, and rolled or twisted into sticks. Boiled sugar is prepared in various fancy forms by passing it, while still glutinous, through small machines, in which pairs of brass rollers, having patterns sunk in the surface, stamp these patterns into the material. It is also worked up in the form of balls, plaited into coils, and formed into many-colored sticks, etc. Most of the candy now manufactured is largely adulterated with starch, plaster, etc. The coloring matter is cochineal for red, and various dyes and pigments for the other colors, most of them being poisonous in their nature.

COPPERAS (Green Vitriol).—This is a mineral, largely used for dyeing black, and is soluble in water. It is also used in the

manufacture of common black ink, and is especially valuable as a disinfectant. It is ordinarily produced by dissolving iron in dilute sulphuric acid, filtering and evaporating the solution, and setting it aside to crystallize. Large quantities are made in this way from the refuse sulphuric acid which has been used in petroleum refineries. It is also obtained from the oxidation of sulphides of iron or pyrites, which, after being roasted, absorb oxygen spontaneously from moist air, and are slowly converted into copperas. There is a constant and increasing demand for this article, both for manufacturing and domestic use.

CORLANDER SEED.—The fruit of a small plant, growing chiefly in the south of Europe. It is principally used for flavoring curries, confectionery and other culinary preparations. The consumption of this article in the United States (in conjunction with caraway seeds, a similar product), reaches 900,000 pounds per annum.

CORK.—The bark of a species of oak tree growing along the course of the Mediterranean Sea. The trees are peeled every ten years. The great sheets of bark are charred or half burnt on both sides, and while hot are laid flat on each other, and weights put upon them to flatten them; they are then shipped in bales for export, and manufactured into the numerous forms in which they are used by the grocery and other trades.

CORN.—Properly speaking, this term is applied to all farinaceous grains used for food; but, in many countries, it is restricted to one particular kind of grain; as, for instance, in Scotland it means *oats*; in England it refers to *wheat*; but in our own country the term is restricted to *maize* or *Indian corn*, of which several varieties are cultivated. There is the *Yellow corn*, grown in the Northern States; the *White* or *Southern corn*—which is named from the color of the grain when ripe; and the *Sweet corn*, the ripe grain of which has a shrivelled look. This is the variety most esteemed for table use as a vegetable. There is also a small variety, called *Pop-corn* (a special favorite with the children throughout the Union), so called from the slight explosion with which the husk of the grain bursts when the interior is expanded by heat in roasting.

Corn is most extensively used in the shape of *Corn meal*, which is made into bread, mush, puddings and cakes of various kinds, and, in large portions of the country, forms the chief article of food. It is also extensively canned for use as a *vegetable*.

COTTON-SEED OIL.—This oil is rapidly being brought into domestic use as a substitute for lard and olive oil. For many years it has been shipped from the United States to Spain and Italy, and sent back to us again as *pure olive oil*. Many families are prejudiced against lard, and prefer to cook in olive oil; and, certainly for this

purpose cotton-seed oil answers quite as well, being much more convenient, as good in quality and much cheaper. There is no doubt that before many years are over, every grocery store in the United States will keep a large supply in stock. It is not prepared by any special process, but is simply the refined vegetable oil pressed from the cotton-seed. Even at the present time, it is largely employed in packing American sardines and in making soaps.

CRABS.—This is a general name applied indiscriminately to all shell-fish (or rather crustaceans), of which there are a great variety in American waters. They are a specially favorite article of food in the United States, and, as a natural consequence, the catching, cooking and canning of these luscious dainties have been brought to a high pitch of perfection in this country. The crab-catching industry is, probably, one of the most profitable and interesting occupations of the many opened up to American enterprise. Chesapeake Bay and its surroundings lead in this industry in the States. As the boats come ashore the fish are carefully assorted, and the dead crabs thrown out. They are then placed in latticed cars, holding about two hundred and fifty dozen, which are run into huge steam tanks, the steam turned on, and in a few seconds life is extinct, and the fish is ready for the operation of the strippers—the shell being as white, sweet and dry, and the flesh as firm as it is possible to get it. The strippers, standing before a trough of clear, cold water, dexterously remove the shell, refuse, etc., from the fish, and, after carefully washing it, pass it to the pickers, who are ranged at long tables running the length of the house. The meat is here picked out into half-gallon buckets, and is then carefully examined to see that it is clear of shell, etc., and passed to the weigher. From the weigher it goes to the canning room, where it is packed in one and two-pound cans, and is then passed to the process room, where the operation of hermetically sealing is conducted. Every can is afterward examined, to see that it is perfect, and, after being varnished, labelled, wrapped and packed, is ready for market. In this condition it will keep sweet for years and in all climates, and a ready sale is found for it, even in the most remote markets.

CRACKERS.—These are hard biscuits, largely used in the domestic circle, and in the restaurants throughout the States, as an article of food. These and other plain and fancy biscuits are now principally made by machinery. The mixing of the dough and water, the kneading, rolling out, cutting and panning, are all done by machinery; and in the patent ovens, the biscuits are placed on travelling platforms, passing through the various temperatures of heat (modified to suit the various kinds and qualities), in from five to forty-five minutes, when they are baked and ready for the consumer.

In the making of fancy biscuits, milk, eggs, sugar, butter, lard,

flavoring essences, etc., are used in considerably varied proportions, according to the kind required; and, in every case, these ingredients are roughly mingled before being put in the mixer. In the richer classes of biscuit, the dough is soft, and therefore cut by hand and fixed on trays in common ovens. *Cracknells* are made without either milk or water being used, eggs alone are mixed with the dough for that purpose—certain proportions of butter, sugar and sesquicarbonate of ammonia being added, and the dough is baked in the usual way. Many other varieties of biscuit are rendered light and spongy by the use of the sesquicarbonate of ammonia or carbonate of soda with sour milk. There are many hundred different kinds of plain and fancy biscuit manufactured and named from the kind of flour used, or the flavoring, or as fancy may dictate.

CRANBERRY.—A small acid fruit growing in boggy and marshy ground, and extensively cultivated in the regions of Cape Cod, New Jersey and Wisconsin. The three varieties recognized in the markets, are the cherry, bell and bugle varieties. The best of the cherry varieties are very dark colored. They are largely used for making tarts and jam, and as a sauce for poultry. Great care should be taken in cool weather not to buy frost-bitten ones. More money has been made and lost in the culture of cranberries than in any other fruit. Cape Cod cranberries bring the highest price, being worth one dollar per barrel more than the Jersey crops. In the districts where the cranberry is grown, the picking season is a perfect bonanza to every man, woman or child. The pickers are paid seventy-five cents a bushel for picking the berries, two bushels a day being considered a fair day's work, though expert hands often gather from five to seven bushels.

CRAW FISH.—This fish resembles the lobster, but is much smaller. It is esteemed a very great delicacy, and is eaten either fresh or preserved by canning.

CREAM.—The lighter portion of the milk which rises to the surface when it is allowed to stand. In good, rich milk, the proportion varies from one-fifth to one-third. Much of the cream is taken from the milk sold to storekeepers by dairymen, who supply cream to ice-cream saloons, and butter to private families. The proportion of cream in the milk sold by different dealers is easily ascertained by filling a bottle or tube with each, and letting them stand undisturbed for forty-eight hours, when the difference in color will clearly distinguish the cream from the milk, and show the relative proportion contained in each sample.

CREAMERY.—An establishment for the manufacture of butter from cream, conducted on the same basis as a cheese factory, the farmers of the neighborhood supplying the cream, and the butter

being made in larger quantities and with greater uniformity than is possible in the private dairy. The butter so made is sold and quoted as "creamery."

CREAM OF TARTAR—Also known as Acid Tartrate of Potassa (its chemical term) and Argol. This is a principle or element found in the juice of the grape and all other vegetable juices; and, when these juices undergo the process of fermentation, and the sugar is thereby transformed into alcohol, the cream of tartar or argol, is found deposited upon the inside of the wine barrels, or on the surface of the liquid in the bottles—hence the term "crusted," in relation to wines, etc. The cream of tartar, as sold in our stores, is this crust or argol after it has been refined; it has an acid, cooling taste, and is used in the preparation of summer drinks; is an aid in raising bread and cakes, and as an element in all the known baking powders. It is imported from all wine-producing countries, the best coming from Italy and the South of France. Cream of tartar is almost universally adulterated—many of the samples containing not more than one-third or one-fourth of the pure product. Most of the articles used in its adulteration being insoluble earths, it can be readily tested by boiling it in water eighty times its own bulk; if any sediment remains, it is *not* pure. Its sale in grocery stores has been much diminished by the introduction of baking powders. Tartar made from wine that has been cleared with plaster is richest in *tartaric acid*; while that formed in wine that is cleared with eggs is richest in *cream of tartar*. The tarter takes a pinkish or creamy tinge, as the wine in which it forms is red or white.

CUCUMBERS.—The common cucumber is a native of Middle and Southern Asia; and both raw and in the form of a pickle (more especially the latter), is an important article of food in the United States and in Europe. Young cucumbers make especially delicate pickles, in which state they are known as *gherkins*.

CURRENTS.—Small acid berries, eaten raw as a dessert, but more extensively used in the making of jellies, syrups, jams and in pies and puddings.

The **RED CURRANT**—Is a native of North America, Europe and Asia, and is preferred to either of the other descriptions for its pleasant acid juice. It is especially used for the making of jellies and preserves, and is frequently manufactured into wine. They are also dried for market and canned in the green state.

The **WHITE CURRANT**—Is a variety of the common currant which has been produced by cultivation. They are less acid and consequently more suitable for eating raw, but are not as desirable for cooking.

THE BLACK CURRANT—Is not, as yet, cultivated very extensively in this country. The number of varieties of currants in cultivation is very great; they are propagated by cuttings and are of easy culture. It flowers in April and fruits in June and July.

CURRANTS (DRIED).—The dried fruit sold as “currants” or “Zante currants,” is generally supposed to be really a preserved currant, but is in fact a small-sized grape without seeds, largely cultivated in Zante and the Grecian archipelago. The dried fruit was originally brought to England, from Corinth, and called “Corinths,” a name which was readily changed to currants. The grapes are about the size of peas, are very sweet, and need no other preparation than a thorough drying in the sun. For shipment, after the stems are removed, they are placed in casks and made into a solid mass by treading. Being dried upon the ground, currants require careful washing to fit them for use. They are used to a considerable extent in domestic cookery, but the chief demand is from bakers. The annual importation into England is over twenty thousand tons, and a large quantity is brought to this country.

CURRY POWDER OR CURRY PASTE.—Used extensively in India and other eastern countries; it is too highly seasoned to be much valued in other sections of the world. It is composed of black and cayenne pepper, and a variety of aromatic seeds, nutmeg, cinnamon, cloves, etc., made into a paste or powder, with turmeric. Its composition, like that of salads, varies with different makers.

CUSK.—A fish belonging to the cod family, with an elongated body, a single dorsal fin extending the whole length of the back and fleshy ventral fins. The American cusk is considered a distinct species from the European, and is also considered superior. The length of the fish varies from two to three feet or more, and it weighs from four pounds upward. In spring it is seen in the Boston markets, when it is less esteemed than cod; but in winter it brings a higher price. It is caught, salted and dried in much the same manner as the cod.

CUTTLE-FISH.—As an article of commerce, is the bones of a sort of shell-fish, placed in bird-cages for the birds to whet their bills upon. It is an article which all grocers should keep in stock who keep bird-food, etc., as it is a small and profitable item, and not liable to spoil. It is sometimes used in the preparation of tooth powders, for polishing metals, and for various purposes in the arts.

DAMAGED GOODS.—The liability of many goods to damage, *en route*, makes it important for the dealer to act cautiously in throwing the blame on the wholesaler or shipper. Nothing can be more unwise than to receive a shipment of goods by *freight*, and return a damaged cheese by *express*, or to return an entire invoice because

something in it is wrong. Write carefully to the shipper, stating the particulars, and say that such articles are held subject to his orders, and expense and trouble will be saved to all concerned. Many goods, especially in winter, are sent at the risk of the party ordering them, and it would be well to understand the whole ground before making claims. At all times just claims should be made *promptly*, but it is very dangerous to contract the reputation of making claims on trivial grounds.

DANDELION.—A well-known plant, with spreading, toothed leaves, which, when bleached, make a good salad. The green leaves are also generally used as greens in the spring, and cooked in the same way as spinach. The roots are frequently roasted and ground as a substitute for coffee; they also contain valuable medicinal properties.

DANDELION COFFEE.—Is an equal mixture of ordinary coffee and pulverized dandelion root.

DANDELION CHOCOLATE.—Is made by mixing one part of common chocolate with four parts of powdered dandelion root.

DATES.—The fruit of the Date palm are eaten *dried* and *candied*, and form an important article of commerce in all parts of the United States. Their size and quality differ greatly, depending not only upon where they were grown, but also the manner in which they are dried and packed. They should be chosen large, softish, not much wrinkled, of a reddish yellow color on the outside, with a whitish membrane between the flesh and the stone. The Date palm tree may be found growing native throughout the East and the greater part of northern Africa, and which is cultivated in Spain, Portugal, Italy and Sicily, and grows to the height of from forty to eighty feet. Fard dates are sold very generally by grocers.

DERMESTES.—Commonly called the Bacon Beetle. The larva or eggs of this insect is very destructive to bacon and other dried meats, and often also to cheese. It is a worm of a long shape, tapering towards the tail, dark brown above, white beneath, with long hairs and two horny hooks on the end of its body.

DEXTRINE OR BRITISH GUM.—Is of immense value in the arts as a cement. It was discovered by accidentally overheating starch, and its process of manufacture was for a long time kept secret. Its chief use, however, was in the cotton manufacture. It is the standard gum for postage stamps, though sometimes gum arabic and cheaper substitutes are used.

DUTCH STANDARD.—Is now adopted in determining the value of sugars, thereby establishing a basis on which the customs due

on imported sugars are collected. It is simply a test of color, and the standard qualities are generally arranged in sealed bottles of different degrees of color up to the number of fourteen. The polariscope is now recognized as the most accurate test of the value of sugars.

DYES.—Dyes are put up in convenient packets of aniline colors for dyeing Easter eggs, and the grocer will find it profitable to keep them on sale before Easter.

EGGS.—Extensively employed in cake and pastry making and in general cooking. Where used by themselves they form a very nutritious article of food. Eggs should not be allowed to lie too long on one side, as the yolk gradually sinks down through the white of the egg, and when it touches the shell it quickly spoils. For this reason, in packing eggs, they should always be placed with the small end down. Packed in this manner, whether in sawdust or salt, they may be kept for a considerable time without spoiling. Bad eggs float in water, thus affording an easy means of detecting them. Eggs vary so much in size and weight (varying according to the breed of the fowl), that it is claimed in justice to the consumer, they should be sold by weight and not by number.

How to PACK EGGS.—It is estimated that \$75,000,000 worth of eggs are consumed in the United States every year, of which amount \$18,000,000 is chargeable to the city of New York alone. The business of collecting and forwarding this immense quantity of eggs is of such proportions that a large aggregate capital is invested in it, and the process has been reduced almost to a science. Originally, of course, the eggs are gathered from the farm-houses by hucksters, who deliver them, packed in boxes, at the central depots established by the large dealers. At these points they undergo a rigid inspection. Only the sound eggs are put down for shipment, the spoiled article being of course wholly rejected, and the cracked eggs laid aside and disposed of at a reduced price. The boxes contain six layers, each layer comprising seven rows of fourteen eggs each, and each egg having the secure occupancy by itself of a small pasteboard cell. A box thus holds forty-nine dozen eggs. The employees engaged in filling the boxes hold every egg up to a lighted candle, and drop it into its separate compartment if good, or into another receptacle if it fails to pass inspection. The good egg, thus looked at against the light, is clear and amber toned, while the invalid one is dark and muddled, suggestive of political disturbance and cheap boarding-houses. The speed with which the work of selection and packing is done is marvellous, and could not be attained without much fracturing of the goods, save by an experienced hand.

The packages of eggs are kept in a cool and dark apartment, in which a temperature of about 30° Fr. is artificially maintained. Thus,

when the season arrives at which the product becomes scarce, and would be hardly obtainable in the large cities, the dealers are in a position to supply the market freely and at a satisfactory profit. From Canada and northern New York heavy shipments are made to Boston, while central and southern New York, Pennsylvania and New Jersey supply the steady and enormous demand of New York city.

A process has been devised by which the freshness of the egg is said to be maintained for years, resisting the injurious effects of climate. It consists of the crystallization or desiccation of the egg, changing it into an amber-hued vitreous substance, or consolidated mass of yolk and albumen, and materially reducing its bulk. When wanted for use, it is restored to its original condition by adding the water which has been artificially removed. No salt or other foreign matter, it is said, is employed in this process; for which the further merit is claimed that an egg ever so slightly tainted cannot be treated by it at all, and the wholesomeness of the prepared product is thus assured.

EGG CASES.—Patent egg cases will be found to amply repay the extra expense to egg shippers, by their superior advantages in holding the egg in position in packing, thus insuring safe transportation.

EGG PLANT.—So named because the fruit, for which the plant is cultivated, is shaped somewhat like an egg. The fruit is of a rich, purple color, about the size of a man's head, and is prepared for the table by frying in slices, by baking, and otherwise being used in soups, like the tomato, by the French and Italian cooks.

ELEME.—A Turkish word signifying "hand-picked," as Eleme Figs—hand-picked figs.

EPSOM SALT.—The common name for Hydrated Sulphate of Magnesia. An excellent quality of this common medicine, universally sold by grocers, is made at Baltimore and Philadelphia, and is also found in Kentucky and many of our Western States. Epsom Salt is frequently adulterated with sulphate of soda, the presence of which may be detected by boiling one hundred grains of it in water and precipitating it in a boiling solution of carbonate of potash. If the precipitate, when dry, weighs less than thirty-four grains, the adulteration is undoubtedly proved.

EVAPORATED GOODS.—Among the numerous devices which have come into use within the past few years for the preservation of fruit, none seems to be more successful than the process of drying apples and other fruits by evaporation, the old-fashioned method of drying in the sun being largely superseded by the new process. At least we know that the sale of evaporated apples, as one instance, is rapidly increasing in this market, while the

demand for the old quartered and sliced dried apples has almost entirely dropped off. Evaporated apples command about twice as much as the old-fashioned dried apples. In fact, it is difficult to buyers for the latter at any price, and their sale is now limited to small lots for the foreign market, where a very cheap article is wanted. The fruit is cut in thin, round slices and laid on trays, which are moved quickly through a vertical evaporator, with heated flues, by means of wheels and chains. The air in the flues is so regulated as to thoroughly dry the fruit while passing through, without materially changing color or allowing it to lose any of its natural qualities. The fruit is neatly packed in boxes, and can be transported any distance in ordinary freight conveyances. One bushel of green apples will make from five to seven pounds when dried by evaporation. Peaches, berries and several kinds of vegetables, have been treated successfully by the evaporating process, which is destined to have an important influence on the preservation of all our vegetable products.

EXTRACT OF MEAT.—A preparation of condensed beef juices, obtained by reducing the meat to a moderate heat in a vacuum pan, thus leaving nothing but the stimulating properties. Liebig's Extract of Meat is the most generally used, but it is to many people, a very nauseating article, its taste and odor being quite offensive to a delicate palate. If a little butter, a piece of bread and plenty of salt are put in the hot beef tea, this will be largely obviated.

EXTRACTS FOR FLAVORING.—Fruit and Vegetable Essences or Extracts for Flavoring, are matters requiring such delicate and skilful handling, and so intimate a knowledge of chemistry, that the retail dealer has to depend, to a great extent, on the good faith of the manufacturer as to the *bona-fide* character of the goods he offers for sale. The number of fruit flavorings which every grocer is obliged to keep, for hotel, family and confectioners' use, and which, in order to be successful, must be absolutely pure, natural flavors, comprise the Lemon, Vanilla, Nectarine, Peach, Orange, Cinnamon, Ginger, Nutmeg, Rose, Celery, Almond, Clove, Peppermint and Wintergreen. All of these, being largely used for flavoring purposes in the manufacture of beverages, pastry and confectionery, it is certain that if the extract is not first-class and thoroughly genuine in its character, the numerous processes the extract has to go through will deprive it of all semblance to its natural odor and flavor. Many of the flavoring compounds offered are simply artificial essences, manufactured by the skill of the chemist from the petroleum compounds as a basis, without a particle of the supposed fruit flavor in it, but yet so skilfully imitated as to almost defy detection. The essences as ordinarily prepared, are simply the solutions of the *essential oils* of the respective fruits and plants in alcohol, the oil being added to the rectified spirit and shaken till a uniform mixture is obtained; and it is

too often the case that this apology for a natural fruit flavor is still further diluted by water, so that the real fruit essence contained is extremely homoeopathic and attenuated, both in quantity and quality. The safest and easiest course which the retail dealer can adopt is to consult the pages and price-lists of the *NEW ENGLAND GROCER*, where the most reliable information concerning the trade, and the quotations from the leading houses, will guide him in his operations satisfactorily to himself and his customers.

FIGS:—These are brought in a dried state chiefly from India and the East. Of late years they have been successfully cultivated in California and the warmer sections of the United States; the great difficulty encountered in its cultivation in eastern United States being the severity of the winters, which sometimes kill the trees as far south as Florida. There are several varieties, differing widely in color and quality, the best of which are the brown Turkey, brown and white Ischia, white Marseilles and the Eleme (or hand-picked) Turkey figs. The best qualities of figs are packed with a few bay leaves on the top of the box to exclude insects. "Natural" figs are those not compressed in packing, and "pulled" figs are those made soft by kneading, and then pressed into drums or boxes. The fig consists of a pulp containing a number of seeds, enclosed in a rind. One most peculiar circumstance is that it has no visible flower, and the fruit arises immediately from the stem. As the fig enlarges, a flower comes to maturity, in concealment; and, in Eastern countries, the fruit is much improved by a singular operation called *caprification*, which is performed by suspending by means of threads over the cultivated fig, branches of the wild fig, which contain innumerable small insects. When the insect develops its wings, it leaves the wild fig and enters the cultivated one for the purpose of laying its eggs. By this process it hastens the ripening and causes the nutritious juices to spread. When ripe they are mostly dried in ovens to preserve them. The fig tree yields three crops annually, but the winter yield is of little value. During the last few years, California figs have proved a prominent item in the transactions of the trade; but the importations aggregate annually about 6,000,000 pounds, of the value of \$400,000.

FILBERTS—Are nuts much esteemed for the dessert, and are the fruit of the hazel bush. The American hazel nut is smaller than the European. The round varieties are called cobnuts, the name filbert only being applied to the elongated sorts. Barcelona nuts are filberts which have been kiln-dried to increase their keeping qualities. Filberts are much used for dessert, and also for the production of an oil called nut-oil, of which they yield about half their weight. Nut-oil is much used by artists as a drying oil, and is also employed by the makers of choice varnish and by druggists as the basis of fragrant oils. The American hazel-nut is smaller than the European.

FIREWORKS.—Grocers and country dealers are often tempted by the prospective profit in fireworks, to put them in stock about the Fourth of July. They detract from the attention to the regular business of a store, are very dangerous in themselves, and; unless covered by payment of an extra premium in advance, destroy any policies of insurance that may stand on the stock or building. Laws are gaining ground against their use, and every year it becomes more difficult and less profitable to handle them.

FRUIT AUGURS—Are instruments for loosening such articles as prunes and dried fruits, when they have been too tightly packed.

FRUIT BUTTERS—As their name implies, are preserves of fruits made without retaining their form, but having a consistency more like butter. They are made from the Apple, Peach, Plum and Quince. They differ from jams in being less sweet and less firm. They are usually sold to the trade in large, wooden pails, retailing them by the pound. Many inferior goods of this class are frequently made from damaged fruits mixed with the lowest grade of molasses.

FRUIT (GREEN). Many grocers consider it advantageous to add green fruit to their general stock, and the public begin to find out that they can purchase it from the grocer at a cheaper rate than from the fruit merchant. In these times, when the grocer is beset on every side by opposition from stores and wholesale retailers, etc., it behooves him to look around for fresh articles for sale, whereby he may make good his losses. To those who have not already done so, we would say: Add the green fruit business to your trade, and we are of opinion that you will not have cause to regret it, provided the business be carried on with care and discrimination, and only such articles purchased as are found to be in demand in their respective localities.

GALLON.—A measure for dry or liquid goods containing four quarts. The United States standard gallon contains twenty-three cubic inches, or equivalent to a cylinder seven inches in diameter and six inches in height, and is the same as the old English wine gallon. The beer gallon contains two hundred and eighty-two cubic inches.

GAME.—Any wild animal or bird pursued or taken by a sportsman, is legally considered game—such as Rabbits, Woodcocks, etc. The term is equally applicable to animals formerly living in a wild state, but which may now be usually found domesticated. The game laws differ in the various States.

GARLIC.—Garlic is a weed very similar to the Onion, which, at certain seasons, abound in many pastures. It imparts a very

strong, rank flavor to the milk of cows who chance to feed on it, and gives a disagreeable taste to their butter. Some people (especially the Dutch and Germans), do not object to this flavor; but, to most people, it is extremely obnoxious. Its principal use in cookery is to flavor soups or stuffing for fowls.

GAUGE ROD.—An instrument for measuring the quantity of liquid in any vessel, such as a barrel or cask. *Gauging* is the method of determining, by actual measurements, the capacity of any vessel or receptacle, as of a cask, barrel, vat or tank. The operation may be performed, either by measuring the dimensions of such receptacle and then calculating its capacity upon geometrical principles, or by means of a gauging rod suitably adjusted for the purpose. The instrument usually employed is a diagonal rod, by which the contents of the cask are inferred from its diagonal length, measuring from the bung-hole to the extremity of the opposite stave at the head. On one face of a square rule, generally about four feet long, a scale of inches is described for taking the measure of the diagonal, while a scale on the opposite face expresses the corresponding contents of the cask in gallons. Although only approximate results are given by this method, yet, by the aid of experience, and the use of larger sliding-rules for calculation, it is quite possible to accurately measure the contents of casks which represent a given standard of form.

GELATINE.—Gelatine is made from various animal substances, but chiefly from the softer parts of the hides, etc., of cattle, by boiling them and treating them with steam. It is chiefly used in making jellies and jelly-like desserts. Great care should be taken to get a strictly pure article, and this may be easily tested by pouring water upon the dry gelatine, when, if pure, the solution should be colorless and odorless. It is used in the place of isinglass, being much cheaper. Gelatine does not furnish food sufficient to sustain life, although it was formerly supposed to be very nutritious.

GINGER.—Ginger is a native of India and China, but is now cultivated extensively in tropical America and Western Africa. In its commercial form it consists of the root stock of the Ginger palm, which grows freely in moist places in all tropical climates. The root is gathered when the stalk withers, and is immediately scalded in order to kill it and to prevent sprouting, or it is washed and scraped. The first-named method of preparation is generally applied to the oldest and most inferior roots, and produces the black ginger; while the latter produces the white ginger of commerce. The whole ginger is known in the trade as *Race* ginger. The white color is often heightened by a chemical process of bleaching, which impairs the real value of the article. In China and India the ginger is boiled and cured in sugar, thus forming the much-esteemed preserve known as

conserved or Canton ginger. The popular medicinal and aromatic stimulant, known as Jamaica Ginger, is a concentrated, alcoholic tincture of the ginger root. Numerous other preparations and decoctions are made from it—such as “ginger tea,” “ginger beer,” etc. It is also used as a flavoring for food, and is largely employed in medicines. Ginger is commonly sold in the powdered state, and is largely adulterated with starch, wheat flour, mustard husks, etc. The value of the ginger consumed in the United States is not less than \$166,000.

GLAUBER'S SALT.—Or the Hydrated Neutral Sulphate of Soda, is found native in sea water, in mineral springs, and very abundantly in the alkaline soils and waters of the western plains and mountains of the United States. It is a mild saline cathartic, and was formerly much used in medicine, but its administration is now rarely employed, except in the treatment of horses and cattle.

GLUE.—Glue is obtained from the hides and hoofs of oxen and other similar materials. Almost every kind of animal matter will yield it, and accordingly all kinds of animal refuse are made use of in its manufacture. There are several varieties of it. “White” glue is apt to be considered a stronger and superior article, but for practical use nothing has been found so strong and adhesive as the clear, dark “Cologne” glue. The white glue is, however, preferred for some special purposes, such as joining light woods, etc., where a light color is of more importance than extra strength. Good glue is semi-transparent, deep brown and free from spots and clouds.

GLUCOSE.—Many people regard this addition to our sugar supply with dread, from the fact that they consider it as an injurious adulteration. This is a mistake, for Glucose is simply the sugar obtained from starch, instead of from the cane. There is no doubt of its inferiority for sweetening purposes to that of cane sugar, and there is also no doubt but that it is used as a means of adulterating, or, more correctly, reducing the quality of sugar. The growth of the manufacture has been of late years very extensive. It is manufactured from starch in the following way: A mixture of starch and water, at a temperature of 130°, is allowed to flow gradually into a large vat containing water, with the addition of one per cent. of sulphuric acid, and kept at boiling point. In about half an hour the starch is converted into sugar. The liquid is drawn off, and the acid is then neutralized by the addition of chalk. The molasses is then drained off and the sugar is dried in a gentle heat by a current of air. It is more or less used in the manufacture of all confectionery; also, in brewing ale and beer, and distilling spirits, brandy and wine.

GREASE.—A name of general application to all fatty or oily substances, but more especially to those having some degree of solid-

ity, as tallow. It is employed, to a great extent, as a lubricant for machinery and wagon wheels. The most inferior quality, mixed with tar and other substances, is employed for axle-grease.

GRIST.—Wheat flour, divested of the coarse bran or pellicle.

GRITS.—A name used to designate any of the several varieties of grain used in cooking, such as Hominy Grits, Wheaten Grits, Oaten Grits, etc., etc. The trade can obtain them in pound packages, which are very convenient. They are generally used as a breakfast dish, but during the winter, some families use them for supper.

GROATS.—Are the grain of wheat, oats and barley, deprived of the outer coating, and are used for preparing gruel for invalids, and in broths and soups.

GROCER.—Formerly written *Grosser*; meaning one who sells by the gross, that deals by wholesale.

GUAVA.—The Guava tree, of which there are about one hundred species, grows abundantly in tropical America and the West Indies. The fruit of the guava is delicious when fresh, and is largely in demand when made into jelly. Guavas are a bright yellow color and very fragrant. It is now cultivated in Florida, and small lots of jelly from that State have appeared in our northern markets, which were quickly taken.

GUM.—An exudation from trees and plants, which, dissolved in water, forming a transparent mucilage, and is insoluble in alcohol, ether and oils. It is extensively used in the arts, manufactures and medicines. The common gums are Gum Arabic, Gum Tragacanth, etc., which are used in making adhesive pastes. Dextrine [which see] is used very extensively as a substitute for gum in making gummed papers or mucilage.

CHEWING GUM.—The original article formerly sold in the stores was spruce gum, but pure white paraffine wax, variously flavored, has of late years taken its place very generally. There is a great trade in this article. Maine is the great spruce-gum producing State, where it has become a most important industry.

GUMBO OR OKRA.—A West Indian plant, although largely cultivated in the Southern States and in warm countries generally. Its green pods are mucilaginous, are excellent in soup or cooked and served with butter. They are also frequently made into pickles. The seeds, known as "ambrette," are much used by perfumers.

GUNNY BAGS.—Are made of a strong fibre which grows in India, and much used for making mats, sacks and for all kinds of packing.

GUNPOWDER.—An explosive mixture composed of ten parts sulphur, seventy-five of nitre and fifteen of charcoal. Its chief use is the discharge of projectiles from firearms and in blasting. A special license is required to sell it, which may be obtained from the municipal authorities. Insurance is also affected by keeping it on the premises, and an additional premium should be paid in order to cover the property in case of fire.

HAKE.—The American hake, a fish of the cod family, may be distinguished from the cod by having only two dorsal fins. It is white, reaches a length of from one to three feet, and is taken along the coast from New Jersey northward. It is a valuable fish when salted, and is largely exported from the British Provinces. The hake, haddock and pollock are often sold as cod to those unable to distinguish them.

HALIBUT.—A fish found from New York to Greenland, and also on the northern shore of Europe. It reaches a length of from three to six feet, and varies in weight from one hundred to five hundred pounds. Large quantities are caught on George's Bank and Nantucket Shoals; it is also abundant in the Bay of Fundy and in the waters of Nova Scotia. The flesh of the halibut is coarse and dry, but much esteemed by some. Immense quantities of the flesh are dried, salted or smoked, and largely consumed in northern countries. In England it is not thought much of, but in this country brings a higher price than cod. Our fresh-water sturgeon is said to be smoked and frequently sold for halibut.

HAY.—The blades of grasses and the stems and leaves of other plants that are dried for fodder for cattle. The hay crop of the United States is enormous, and amounted, in 1862, to more than 25,000,000 tons. In 1868, the crop from the States of New York, Pennsylvania, Ohio and Illinois alone, was 27,000,000 tons, from an acreage of 21,541,573, and valued at \$355,000,000. At the present time the yield is not less than 35,000,000 tons.

HAZEL-NUT.—The fruit of a small shrub belonging to the oak family. The nuts are small, and not as good as those of the European hazel or filbert. It is found in thickets, along borders of fence-rows, etc., throughout the United States. It flowers in March and April and fruits in September.

HEAD CHEESE.—Made of parts of the head and feet of swine, cut up fine and pressed into the form of a cheese. It is also called *Hogs-head Cheese*.

HEMP.—A native of the East, but is now cultivated throughout Europe and the United States, and is largely used in the manufacture

of cordage, and also coarse shirting, sheeting and toweling; and in a coarse cloth called "huckaback." The plant fibres of manilla, jute, etc., all come under the same designation. *Hemp Seed* is an important and valuable article in bird-food; and, upon expression, yields *Hemp-Seed Oil*, the commercial supply of which comes chiefly from Russia.

HERBS.—Herbs dried, are used for flavoring soups and making herb or medicinal teas, and various other purposes. They are mostly prepared by such farming communities as the Shakers, the Oneida settlement., etc.

HERMETICAL SEALING.—A can or other vessel, when closed and sealed against the possible admission of air, is hermetically sealed.

HERRING.—There are several species of this favorite and much-used fish, the two principal being that inhabiting Northern Europe and America, and that found on the Pacific coast of the United States. The American herring fisheries are located along the New England coasts, and also in British-American waters—an important winter fishery being on the coast of Maine and in the Bay of Fundy. They are usually caught in gill and scoop nets—their annual catch amounting to many hundreds of millions. Herring may be eaten fresh, but are more generally smoked, fried or pickled; but, in whatever form prepared, are a most important and universal element of food. *Boneless herring*, prepared for the broiler and packed in boxes with glass tops, is now a quick-selling article in a grocer's stock. The quantity of cured herrings brought in by American vessels annually exceed 185,000 pounds, besides large quantities consumed fresh, not included in the calculation. The fishing is carried on during the winter and spring.

The herrings do not ascend the rivers like the alewife and shad. The common American species or blue-back, varies in length from twelve to fifteen inches; the color is a deep blue, tinged with yellow. It is generally most abundant in May, but is caught on the shores of New Brunswick during every month of the year. The herring fisheries were carried on by the Pilgrims at Plymouth. The herring fisheries of France date back to the eleventh century, and that of Great Britain three hundred years earlier. The Dutch were engaged in this business for a time, and Amsterdam became the great centre of the trade. The herring fishery is surpassed only by the cod fishery in the value of its products. Vessels, especially from Gloucester, Massachusetts, visit the coasts of New Brunswick, Newfoundland, the Magdalen Islands and Labrador, for herrings. The business is pursued in the spring and winter. An important fishery is during the winter along the coast of Maine and in the Bay of Fundy, the herrings being

preserved frozen, and sold in the markets of Portland, Boston, New York and other cities. The chief seats of the Newfoundland fishery are Labrador, the Bay of Islands, Bonne Bay and St. George's Bay, on the west coast, and Fortune Bay, on the south coast. In the Bay of Islands the herring fishery opens in September and continues throughout the winter. When the bay is frozen the fish are taken in nets through holes in the ice. The Scotch herring fishery is pursued along the north-west and east coasts, the latter being the seat of the most productive fishery. Yarmouth is the head-quarters of the English herring fishery, employing two hundred vessels and two thousand men. When pickled and packed in barrels, herring are known as "white" herrings; salted and smoked, they are known as "red" herrings; "bloaters" are herrings slightly cured and smoked, and intended for immediate use. The Dutch fisheries, which once surpassed all others, have greatly declined, but Dutch herrings still command the highest price in the continental markets. The product of the Norwegian fishery is about 1,000,000 barrels a year. In most of the northern countries of Europe, large quantities are annually captured. On the Maine coast, great numbers of the smaller herring are packed in boxes, with foreign labels, as sardines, and are sold in American markets as the genuine French sardine.

KIPPERED HERRING.—Common Herrings, carefully cleaned, dried and smoked.

HICKORY-NUT.—The shell of this nut is thin but hard, and the kernel sweet. The shellbark variety is the best, and is found in all parts of the United States—its nuts being thinner shelled and whiter than the Western hickory, which bears nuts often two inches long and with very thick shells. The *wood* of both species is very valuable, and is largely used for axe-helves, spokes, handspikes, etc.

HOMINY.—Is the grain of Indian corn broken, with the hull removed, and is prepared for use by boiling with water. The larger sizes are eaten as a dinner vegetable; the finer product as a breakfast dish. [See Indian Corn.]

HONEY.—Is used for food, not only by man but by the bees who make it. The composition of honey varies according to the food of the bees, their age, the season, etc. The *wild honey* of Cuba and the West Indies is highly aromatic; that known as *Clover honey* is generally less so. Our chief supplies now come from California, where bee-keeping is conducted on a large scale, unless we give due credit to the manufacturers of glucose, who unquestionably have the advantage of their little rivals. Glucose, being the almost exact equivalent of honey, can be mixed with it without risk of detection, and when properly made is just as wholesome. From the remotest times honey has been employed as food. In moderation it is nutri-

tive and laxative, but dyspeptic persons have found that it aggravates their symptoms. Cases are on record where poisonous honey has produced madness, in consequence of bees extracting honey from poisonous plants. California produces a large amount of honey. The total production of honey in the United States is about 55,000,000 or 57,000,000 pounds annually, obtained from 2,050,000 hives of bees, kept by 75,000 persons. Of this product about 4,000,000 pounds is exported, realizing \$1,200,000. Honey is often adulterated or mixed with solutions of cheap sugars, especially the uncrystallizable or grape sugars; and starch, chalk, gypsum and pipe clay are also added to increase its weight.

ARTIFICIAL HONEY—Is produced in considerable quantities, and usually consists of a solution of glucose, to which is added eggs and frequently cream of tartar. Flavorings of various kinds are employed, and a small quantity of genuine honey is sometimes used to improve the flavor.

HOPS.—The hop plant is found wild in America, Europe and Asia. It is largely cultivated in the United States, chiefly in the States of New York and Wisconsin. Its qualities of preserving beer from fermentation and imparting an agreeable bitter to it, are proverbial. Extremely valuable as a medicine, it has a tonic, stimulant, sedative and narcotic influence, whether taken internally or applied externally in fomentations, etc. They are also used in the manufacture of yeast. The production in the United States has increased very largely and rapidly, the last returns showing an excess of 30,000,000 pounds.

The hop has been cultivated in Germany since the ninth century. The English first engaged in its cultivation during the reign of Henry VIII., about the year 1524. In the county of Kent, England, thirty thousand acres are devoted to hop cultivation. The Belgian hops have a good reputation, but those of Bavaria are considered the best of all. Hops are subject to blight of various kinds, from mould or rust and the devastation of an aphid or louse. This insect probably destroys more than half the crops, and much of the remainder is lost by unfavorable seasons and other causes. When the hops are mature, the poles are pulled up with the vines hanging to them, and women and children gather the strobiles (the valuable portion of the plant), which are placed in the kilns, called hop oasts, in which they are dried. Fumes of burning sulphur are admitted to the hops while drying, by which they are partially bleached. They are then packed tightly in bags or packets, with the aid of a press, and the parcels are made so compact that they may be cut into blocks with a knife. The bales may be kept for years in a dry, airy place. The Bavarians allow the hops to dry in the sun, thinking the aroma is thus best preserved. The quality of hops is judged by the weight of

the bags, the heavier samples having more of the lupulene or hop dust. Hop vines have of late years been used as a stock for paper makers. The tincture of hops is a preparation in which the alcohol it contains is more active than the hops.

HOPEHOUND.—A plant from the south of Europe and the East, about a foot high, bushy, with round, wrinkled leaves. It has an aromatic but not very agreeable smell. The syrup is candied, and has become a very popular and effective remedy for coughs and other affections.

HORSE-RADISH.—A plant having roots, the odor and taste of which is very pungent. It grows in damp meadows in the middle and south of Europe, and is naturalized in most localities in the United States. It is cultivated for its root, which is washed, scraped and grated, and then mixed with salads or used as a condiment with meats. It is also used in medicine as a stimulant, and as a remedy for indigestion. The oil extract is very similar, if not identical, with that of mustard. Difficulty is experienced in eradicating it from the ground in which it has once been planted, as nearly every part of the root will grow. When shred or ground into powder, it is packed in bottles for the trade.

HUCKLEBERRY, WHORTLEBERRY OR BLUE-BERRY.—Names applied somewhat indiscriminately to various species of the same fruit. An edible berry, varying in size from currants to small grapes, and in color from light blue to black. They ripen from early in June to the close of August; are picked in enormous quantities and used as dressed fruit for jellies and for pies and puddings. They are very rarely cultivated, but grow wild in abundance, and generally in mountainous regions.

INDIAN CORN.—Indian Corn is one of the most valuable of food-producing plants. It is native to America, and has always been a staple article of food here. It cannot be successfully grown in England, because of the dampness of the climate. The varieties of corn have been much improved and modified by cultivation, and the higher varieties have nearly reached perfection. The more improved varieties contain less oil but more starchy material. *Rice corn* contains the most oil; *Tuscarora* most starch and no oil. The many varieties of *Sugar* or *Sweet Corn* furnish in their green state a nutritious and delicious food; the unripe grains then contain large proportions of sugar, which is converted into starch as the grain ripens. The ripe corn may also be eaten in a parched state, as it is in some Eastern countries, but with us it is used in the form of meal. The entire grain is ground and sold as "unbolted" meal; when it is sifted and the bran removed, it is known as "bolted" meal. When the corn is finely broken or crushed it is known as *Samp*, and is used in the

same manner as Hominy. *Hulled Corn* is prepared by soaking the grain in lye, to enable the hulls to be removed; it is then thoroughly soaked in water, and afterwards boiled until tender. Corn enters largely into the manufacture of whiskey, and a great many distilleries are employed in its production.

INDIGO.—Is a vegetable dye-stuff of much value, native to this country, Asia and Africa. There are over two hundred species, many of which yield the indigo of commerce. It is used in the manufacture of inks, for laundry purposes, and also in dyeing woollen and other fabrics. The best quality will float upon water, is glossy, and, when rubbed by the nail, produces a purple-red streak. When the streak is dull and wrinkles, the quality is poor. Good Indigo may be known by its lightness, which indicates its freedom from earthy impurities, by its not parting from its coloring matter readily when tested by drawing a streak with it on a white surface; but, above all, by the purity of the color itself. Indigo is insoluble in water, until it is treated with sulphuric acid, when it becomes the Indigo Blue used in the laundry.

INDIAN MEAL.—The flour ground from Indian Corn or Maize. It is universally employed in making Corn bread and Johnny cake, and in the form of mush or hasty pudding.

INK.—The composition of the ink used by the ancients is not well understood, but it is believed that their ink far excelled ours in blackness and durability. The necessary elements of ordinary black ink are gall, sulphate of iron (known generally as green vitriol or green copperas) and gum. The gum is added that the coloring matter may be retained, and to prevent the mixture from becoming too fluid.

INSECTS.—Insects of various sorts trouble the grocer, and great care should be taken to keep stores free from them, as they destroy stock and drive away customers at the same time. Cleanliness is the best prevention. Persian Insect Powder is cheap and effective for many of them, and Borax will keep off ants and other small classes, but without scrupulous cleanliness, no permanent relief can be expected.

INSURANCE.—No dealer deserves credit who does not keep his goods insured. Every careful dealer will be as certain to keep up his insurance as he is to lock up his store, and will avoid keeping oils, alcohols, gunpowder or matches on the premises, in larger quantities than are permitted by his policy, without making special provisions and paying the extra premium.

IRISH MOSS.—A marine plant brought from Ireland, which is used as a basis for jellied puddings and mould custards, and is spe-

cially suitable for the diet of invalids and children. It is also found on the coasts in this country.

ISINGLASS.—Is really a gelatine prepared from the swim-bladder of the sturgeon or cod. The best is that brought from Russia, where great quantities are made from the fish from the North and Caspian Seas. It dissolves readily in boiling water, and is extremely useful in the preparation of jellies, blancmange, gum-drops and various articles of confectionery. Fish glues or the coarse kinds of isinglass, are employed in various cements and sticking plasters. It is also used to clear coffee. Japanese Isinglass is prepared from a seaweed. Russia, Brazil and the United States furnish the greater portion of commercial Isinglass. Gelatine is generally superseding it in cookery on account of its lower price.

GLUTEN.—The nutritious parts of Wheat and other grains. The claims made for most prepared wheat-foods, especially for infants is, that they are pure gluten and free from the starch of the grain, *but the exact contrary is generally true.*

GOODWILL.—In purchasing or selling a store, a good rule for estimating its value is to allow one-half to two-thirds of their original cost for fixtures, and take the net profits of the previous six or twelve months as the value of the goodwill.

GOOSEBERRIES.—Grown in any garden soil, they are much used for making preserves and jellies, and also in the manufacture of wine and vinegar. Their main use, however, is in the green state, when the peculiar tartness makes them palatable in pies and tarts. When ripe it is a good dessert fruit. It should be found canned on all grocers' shelves.

GRACE (DAYS OF).—Three days are generally allowed for payment of a note after the date on which it falls due. Banks, in calculating discounts, include the days of grace and also the day on which the note is made—that is, thirty-four days on a thirty-days' note. In some States all drafts, even those drawn at sight, are subject to this allowance of three days. In Pennsylvania and New York sight drafts have no days of grace. In Massachusetts they have.

GRAIN.—A single, small, hard seed, such as a *grain* of corn or wheat; hence taken to express the whole class of eatable seeds. It also applies to the parts composing any bulk substance, such as a *grain* of sugar. *Grain* is the smallest weight used in compounding drugs, etc. Seven thousand of such grains are required to make one pound avoirdupois.

GRAPES.—This fruit is an especial favorite in the United States. The European grape is not successfully cultivated in any

section of this country east of the Rocky Mountains ; but in California it is of easy growth, and the grape culture there is assuming vast proportions. There are four described species of the American grape, from which all the numerous varieties seen in our markets and at horticultural fruit shows, have been derived by cultivation. Among the best varieties for table grapes we would mention the Concord, Delaware, Iona, Hartford Prolific, Isabella, Catawba and Diana ; of these, the Concord, Delaware and Catawba take the lead. The fruit is largely consumed as it ripens, and also in making wines and raisins. The *dried currants* of commerce are a small grape peculiar to the Islands of Greece. California grapes are now the finest in our markets, and vine culture is spreading all over the United States.

GRAMME.—Represents the French unit of weight, being equivalent to 15.4325 grains Troy, or about 12-23 of a drachm avoirdupois. Its weight in distilled water at the temperature of maximum density of 4° C. or 39.2° Fr., is a cubic centimetre. A kilogramme or 1,000 gramme equals 2.6793 pounds Troy, or 2.2046 pounds avoirdupois, often accepted as one hundred weight with 4,000 kilogrammes to the ton, allowing for a slight deficiency.

GRASS SEED.—A term generally applied to Timothy seed, although it may be applied to the seed of any grass. It is one of the most valuable of all crops for the production of hay. It grows from two to four feet high, the flowers arranged on a single spike, one head to each stem. Large quantities of seed are raised in Illinois and Wisconsin, and shipped to the East.

JAMS.—Preserves made by boiling fruits together with water and sugar, and generally understood to be done without regard to the preservation of the shape of the fruit ; in which way it is different from preserved fruits, which retain, in some measure, their original form, and from jellies which are made much more solid. Jams have of late years become very important articles in the grocer's business.

JARS.—Glass or earthen-ware receptacles for holding or containing liquids or preserves. The ordinary glass-preserving jars should be put into stock by the grocer about the middle of May, before the early berries arrive. They continue in demand until all the fresh fruits are out of market.

JELLIES.—The juice of fruits or meats, boiled and thickened to a consistency between fluid and solid. Jelly is made from nearly all fruits, and is put on the market in many forms, but generally in glass tumblers. Currant appears to be the popular flavor. Almost all the jellies in the market are of artificial manufacture, and are made with the cheapest substances obtainable to thicken them, with just sufficient sugar and fruit to give them a palatable taste. Gela-

tine is the base generally used in these manufactures, flavored by the various extracts, *many of these also being artificial*, and are then labelled currant, strawberry, etc., according to the special demand at the time.

JERUSALEM ARTICHOKE.—The tubers of a species of sunflower, similar in appearance to potatoes; they have a sweetish taste when boiled, are watery, and not as nourishing as potatoes. They are, however, quite palatable when properly prepared, and make excellent soup. They are usually pickled or eaten with vinegar.

JORDAN ALMONDS.—The best grade of sweet almonds, of a long, oval shape, grown at Malaga and other Spanish ports. [See Almonds.]

JUTE.—The material from which twine, bagging, mats, etc., are made. All the sugar and rice, pepper, ginger, cinnamon, gums, dye-stuffs, and many other commodities of Indian produce, come to us in gunny-bags made from jute.

KEG.—A small barrel or cask. Coopers, in various parts of the country, have long made *five-gallon kegs* which only hold *four and a half gallons*, in order to avoid the local or state taxes on sales of liquor in quantities of five gallons or over. Manufacturers of many articles have put them up in short packages, and it is no longer safe to accept kegs as containing five, ten or twenty gallons, without gauging them to see how much they hold.

KEROSENE.—Kerosene may be considered one of the most formidable rivals to the use of coal gas as a source of illumination in the home circle. When properly refined it is nearly or quite colorless in transmission, and is at present obtained in immense quantities almost exclusively from petroleum; though in past times it has been, and, to a small extent even now, is produced from bituminous coal, shale, asphalt, wood, resin and various oils—especially Menhaden. Though originally brought into use in Great Britain more than a century since, both for illuminating and lubricating purposes, and also in medicine, Kerosene oil did not make its appearance in the United States until 1854, when the first factory was built upon Newtown Creek, L. I., opposite New York city. This establishment obtained its sources of supply from the bog-head coal of Scotland, the cannel coal of Nova Scotia, and the western coal mines. Trinidad pitch, candle tar and numerous other substances. Shortly afterwards other factories were founded in Ohio, Kentucky and Pennsylvania, in the midst of the coal regions of the United States, and the demand exceeded the supply to such an extent that the genius and enterprise of the country was awakened in the investigation and promotion of this new and

important industry. The first boring for petroleum oil wells recorded, took place in Pennsylvania, Venango Co., in August, 1859; and, from that time to the present, the excitement has continued to enhance and spread abroad, until, at this moment, it far exceeds in magnitude, in amount of capital and labor employed, and in commercial importance, any other source of industry in the known world. As a matter of fact, more fortunes have been made and lost, more gambling has taken place in the production and sale of this oil, than even during the celebrated "South-Sea" bubble of England, or the wildest "wild-cat" operations of the stock exchanges of New York and its sister cities. Fully seven-eighths of the petroleum of commerce is obtained from the "oil-region" of Pennsylvania; though new and extensive deposits are constantly being discovered in Western Virginia, Ohio, Kentucky, Canada and Southern California, as well as in sections of Europe, Asia and the East Indies.

Crude petroleum, as our readers probably know, furnishes a large number of valuable products to the commercial world, which need not be enumerated here—more than a dozen of those products finding a prominent place in our national tariff; but the Kerosene, after it has been extracted from its source, has to undergo a large number of processes before it is eligible for a place in our list of marketable articles. In view of the dangerous character of much of the oil in use, the majority of the states of this country have passed laws requiring that all oil sold within their boundaries should be submitted to one crucial test to determine its quality—and that is the *flash-test*. There is considerable difference of opinion as to the value of the flash-test in determining the *safety* of the oil; but common sense has dictated, and the public generally have acquiesced in the rule that the higher the flashing point the greater is the safety in the use of the oil. 100° is far too low, 120° is a very moderate average, and 140° is a point at which the safety and illuminating power of the oil may be assured. In the majority of the states the test has been fixed at 110°; in a few others it has been raised to 120°; but in Michigan alone it has reached the maximum of 140°. There is hope, however, that in a short time the general test may be raised to that standard, as universal experience has proved that, with the test at 140°, there is no fear of accident from its use. If this rule were only generally established, it would necessarily effectually do away with most, if not all, the cheaper and impure oils, and teach the public a valuable lesson that a *pure article* is by far the cheapest in the long run. A Mr. Ditman has patented a process to reduce petroleum to the density of a solid, in order to facilitate and cheapen the cost of transportation to distant markets.

LABELS.—Every year shows an improvement in the character, style and appearance of the labels on all kinds of grocer's shelf

goods ; and, by a judicious purchase of suitable packages, and a skilful arrangement on the shelves, the appearance of a store can be vastly improved. Some standard goods are put up with very plain and unsightly labels—generally the original ones in which, a quarter or half a century since, they were first sold ; but poor labels, and especially slovenly-looking ones, usually indicate corresponding want of care in putting up the contents.

LAMP BLACK.—Soot produced by burning resin, turpentine, pitch, oil or other substances, in such a way that volumes of smoke are formed and collected in proper receptacles. Lamp-black is used principally in the manufacture of paints, blacking and marking inks. Its quality depends chiefly upon its lightness and the intensity of its color.

LAMPS AND LAMP-WICKS.—Receptacles in which oil is burned by means of a wick, and used as an illuminating power. There was a time when lamps seemed destined to be entirely superseded by the use of gas ; but of late years, in consequence of the high charge for gas, and the great improvement in the quality of the kerosene, as well as the construction and style of the lamps themselves, they have become more popular than ever before, and many that formerly used gas have now adopted kerosene in preference. The Argand lamp, with its circular wick, through which a current of air passes, was the first great novelty, as applied to kerosene lamps (though invented more than one hundred years since) ; and a still more recent invention is the flat double-wick lamp, which came into vogue some three or four years ago, is of great service in the store. Grocers who adopt this system of lighting should take care to have only the best lamps and the finest oil, and keep them in the very best condition, as no stock needs so much light to show it off as the grocer's. But a most decided improvement on kerosene lamps, or any other description of light, would be to close the store earlier, and so dispense with their use—a system which would become much more general among tradesmen, if the expense of the light, the injury done to the stock, and the loss or waste of time were taken into consideration, and compared with the small sales made after seven o'clock.

WHY LAMPS EXPLODE.—All explosions of petroleum lamps are caused by the vapor or gas which collects in the space above the oil. Of course the lamp at first contains no gas, but, immediately on lighting the lamp, the consumption of oil begins, leaving a gradually increasing space for the gas to form, which increases in volume as the oil is burnt, and after a time will accumulate a sufficient quantity to cause an explosion, if brought into *immediate contact* with any flame. The gas in a lamp will explode only when ignited. In this respect it is like gunpowder. Cheap or inferior oil is necessarily the most dangerous, from the presence of the earthy impurities which it

contains in excessive quantity. The flame is communicated to the whole in the following manner: The wick-tube in the lamp-burner is made larger than the wick which is to pass through it. It would not do to have the wick work tightly in the tube; on the contrary, it is essential that the wick should move up and down with perfect ease. In this way it is unavoidable that a certain space in the tube is left along the side of the wick sufficient for the flame from the burner to pass down into the lamp and explode the same. Many things occur to cause this, which may be avoided by exercising proper care, and if the following precautions are taken, fully seven-eighths of the accidents may be prevented: 1st.—Do not hold or stand the lamp in a direct draught. 2d.—Never take the lamp up quickly, or violently move it through the passing currents of air—as in going up or down stairs rapidly. In these instances the mischief is done by the movement of the air down the lamp chimney, or by suddenly checking the flame. 3d.—Never extinguish the light by blowing down the chimney. 4th.—Never use a broken chimney. 5th.—Never use a small-size wick in a large burner. 6th.—Never use a defective or worn-out burner, but throw it away and replace it with a new one.

LAMP-WICKS.—Strips of cotton webbing, of various widths, for use in lamps. They are bought by the dealer in the gross, assorted in sizes, and usually retailed by him by the piece.

LARD.—The oily part of hogs' fat gathered from the tissue by boiling or rendering. The best lard is obtained from the fat surrounding the kidneys, and should rightly be the only material used; but the lard of commerce (even when presumably pure) is derived from the fat of the entire animal. *Pure lard should be firm and white, and free from taste or smell.* To render the lard more firm, and give it a whiter appearance, as well as to increase its weight, various adulterating substances are added. Tallow, stearine, mutton-suet, potato starch and lime, are used to adulterate it so as to make it more firm. Alum is added to increase its whiteness. Water is also used, from twelve to fifteen per cent. of its weight being added. The amount of adulterating material is often as high as *twenty-five per cent.* It is put up in kegs, barrels and tierces, and also in tin cans, in quantities of two, five and ten pounds weight. The following is a simple test for detecting water in lard:—Fill a clean glass bottle with lard, leaving out the cork; place it about six inches from the fire, allowing the lard to melt slowly without boiling, when the water will sink to the bottom and the lard will rise; you will then discover the amount of water in the fraudulent article. Should the lard not settle clear, it is conclusive evidence that it is also adulterated with alkali, thus actually making a soap of it..

New tierces will absorb from two to three pounds when filled with hot lard, and if they weigh over that amount the grocer should

claim that allowance for tare. Frequently honest packers have much trouble with tares. There are instances where the heads are changed, and consequently the weights differ. It is well to have the weight marked both on the side and cover, or head and bilge. The quality of lard differs much with various houses.

Lard is extensively used in cooking articles of food, and in various culinary operations; it is the chief material used by pharmacists in making ointments and cerates. When mixed with rosin, it is an excellent application for the preservation of leather and for lubricating pumps and similar machines, as it preserves the metal from corrosion. When used in making soap, the rosin keeps the lard from getting rancid. The production of lard in this country is more than 280,000,000 pounds per annum; the exports from this country to Europe exceeding 190,000,000 pounds annually, of the value of \$25,000,000.

LARD CHEESE.—Lard cheese is thus prepared in New York and elsewhere in the United States: The skimmed milk is poured into a large cheese vat, and thoroughly mixed with the buttermilk, which has just been drained from the butter. Three hundred pounds weight of fresh milk are then poured into a large, tin bucket, beside which is another tin bucket of the same size, containing one hundred pounds of snow-white lard, that has undergone a steam-refining process, which removes its natural odor and renders it pure and tasteless. The lard and milk, in combination, having been heated to a temperature of 135°, are then put into the "mixing machine," where it is made into an emulsion. This mixture, which is two parts milk and one part lard, is then added to the buttermilk and skimmed milk in the cheese vat. This is then submitted to a heat of 100°, the rennet is added, and the whole allowed to stand for about forty minutes, when it coagulates. The curd is then chopped, salted, drained and pressed, so as to consolidate the solid matter and press out the fluid—the pressure to which it is subjected being very great. About thirty days are occupied in curing these cheeses, during which time they are turned every twenty-four hours.

LARD-OIL.—Much of this oil is exported, more than one hundred and sixty thousand gallons, at the value of a dollar and a fraction per gallon, being annually exported to Europe; a great proportion of which is returned to this country mixed with olive-oil, and resold to the trade as "pure olive-oil." It is also found to be a valuable lubricant for machinery. Good lard-oil is a pale-yellowish or nearly colorless oily liquid, of a slightly fatty odor and a bland taste. Any mineral oil present can be detected by the failure of the adulterating substance to become soap. The admixture of cotton-seed oil with lard-oil is not readily detected, if the former was refined and of a pale color. Any deep-colored lard-oil, or one having a pronounced yel-

low tint, would necessarily be suspicious. There are no reliable chemical tests, either to distinguish these two oils, or to prove the presence of both in one mixture.

LEAKAGE.—An opening or defect which allows a substance to waste or pass out. Allowance is made for leakage only when it can be proved that the goods were not shipped in good condition.

LEMON.—The fruit of a tree closely related to the orange, citron and lime; some botanists consider all these as simply of one species—the citron. The lemon grows wild in the north of India, and has been long cultivated among the Arabs who carried its culture into Europe and Africa. It is now naturalized in the West Indies and other parts of tropical America. This fruit is oblong, wrinkled or furrowed, and of pale yellow color. The pulp of the fruit abounds in citric acid. There is, however, a variety cultivated in the south of Europe, the juice of which is very sweet. The acid juice of the common kind is largely employed in preparing the beverage known as lemonade. It is also used in calico-printing, and as a flavoring extract, and as an effective preventive for sea-scurvy, though the juice of the Lime-fruit [which see] has of late years, to a great extent, taken its place, from its superior efficiency. Lemons vary very much in size, and the ordinary boxes contain from two hundred and forty to four hundred and twenty lemons each; the brands L and LL being used to designate sizes, single L's being the largest. They are wrapped separately in order to prevent decay by crushing together. Thin-skinned lemons are the juiciest. There are over thirty varieties of lemons in cultivation, but they are generally classified according to the place of growth or shipping. The principal importations into this country are from Sicily (Messina lemons) and from Valencia. The lemon can be successfully grown in Florida and California—products which are receiving great attention. The *oil of the lemon* is largely used in cooking and confectionery; the *extract of lemon*, sold for domestic use, being simply a dilute solution of the oil in alcohol. The *pure juice* of the lemon is extremely efficacious in attacks of acute rheumatism.

LEMON PEEL.—The outer skin of the lemon, which is put to many uses. By rasping and pressure an oil is extracted from the peel, which is put up in cans, and is employed largely in cookery and confectionery. The peel is also put to use by being candied or preserved in sugar, in the same manner as citron.

LEMONADE.—A beverage made from the juice of the lemon, for the purpose of allaying thirst. It is also used for medicinal purposes, when it is made either hot or cold, according to the complaint. The vendors of lemonade use citric or tartaric acid, or even a few drops of sulphuric acid, to make their mixture, and only slice a

few lemons to float on the surface and please the eye. Most of the lemonade powders declared to be pure, are made in a similar way. Reliable brands of lime-juice are preferable, unless the fresh fruit is at hand.

LENTILS.—Lentils are the seeds of plants closely related to the pea, and have been used as an article of food from the earliest times. It is a native of Europe, Asia and Egypt, where they form an important article of food. They are largely used by the Roman Catholics during the Lenten season. They are imported into this country to a limited extent, but their use is mainly confined to Europeans. The Germans use the lentils in the preparation of soup. Lentils contain a large amount of nutriment; and lentil meal, flavored with sugar and salt, is sold under high-sounding names, as a food for children.

LETTUCE.—A plant having small flowers, a leafy stem and oblong leaves. It is obtained in good condition during the whole summer, and is generally eaten with vinegar and oil as a salad. It is forced under glass by our market gardeners, and is extensively used in many salads, such as lobster, crab, etc. Lettuce as a food, contains but little nutriment, but has a cooling and soothing effect on the system. During the period of flowering, the plants abound in a milky juice which is collected and evaporated, and has the properties of opium, but in a much milder degree.

LICORICE.—The black mass which comes on the market in small, round rolls, is the boiled juice of the licorice plant, which grows in all parts of the world. It is most commonly done up in sticks, is dry and brittle, and to be soluble in water should be pure. It is adulterated to such an extent that the pure article is rare indeed. A mixture of a little of the juice with the poorest kind of gum arabic, starch and flour, is what is generally put on the market for licorice. Its principal use is in medicine, and it is extensively used in the manufacture of tobacco and liquors, especially to give color and flavor to porter and brown stout, and also into some branded liquors.

LICORICE PASTE.—Is an inferior article, generally coming from Turkey.

POUTEFACT CAKES.—Are round lozenges of refined licorice, made at the town of that name, and impressed with a rude figure of the castle.

LIMBURGER CHEESE.—Thousands of tons of Limburger Cheese (or rather an imitation), are now produced every season, mostly in the States of New York and Wisconsin, at a cost of less than half of the imported article. It is consumed mostly by our German-American population. The process of manufacture, in its first

stages, does not differ from the usual way, except that a lower temperature is kept while the curd is forming—the animal heat alone in summer being often high enough. Great care is taken to use pure milk, free from taint or filth, and cleanliness is requisite in every stage of the making. Upon the curd being formed, it is slowly and carefully cut into squares, pieces the size of dice; low temperature and careful handling being necessary to avoid breaking the butter globules, upon which the richness of the cheese depends. It is slightly scalded and stirred, most of the whey drawn off, and, without being salted, the curd is dipped out into perforated wooden boxes or moulds, about five inches square, and left to drain without any pressure being applied. In a few hours the packages are carried into the curing cellar and placed edgewise on shelves, like bricks set to dry. Every day thereafter they are rolled in salt, and replaced when they have absorbed enough salt. They are turned almost every day, and the slimy moisture which exudes is rubbed with the hand evenly over the surface, which serves the double purpose of keeping the cheese moist and to keep close all cracks into which flies might lay their eggs. This outside moisture decomposes while the cheese ripens, and, being mostly composed of albumen, like fresh meats, eggs, etc., the same results follow the decomposition; and in this case the Limburger odor is developed, which never forsakes it, and sticks closer than a brother to all who touch or eat it. After eight to ten weeks it is repacked in paper and tin foil, and it is ready for market,—in consistence, contents and nourishment, the richest cheese that can be made, but to the uninitiated a malicious and premeditated outrage upon the organ of smell.

LIME—When pure, is a white, brittle substance, and is increased in bulk by the addition of water, when the two enter into combination; and if the water is not in excess, a great heat is obtained. It is doubly as soluble in cold as it is in boiling water. The calcining or burning of lime is performed in kilns. Periodic kilns are those in which the limestone and fuel are mingled, and after the operation is completed, removed, which requires an intermission to clear out the kiln before repeating the process. The continuous kiln is constructed in such a manner that the lime may be drawn off at one side without extinguishing the fire. Lime is of great importance in agriculture, and is used in several forms, both separately and in combination with various other substances in artificial farmyard manures. One of the principal agricultural uses of lime is, however, not alone to supply the growing plants with their needed constituents, but to so act upon the soil as to unlock the riches to them. The hydrate of lime is largely used in coating the plastered walls of buildings; by the tanner in removing hair from hides; by the paper maker in the preparation of pulp. It is also used in the manufacture of caustic, potash and soda. The hydrate

is also largely used in the purification of illuminating gas. Large quantities of lime are obtained in Cornwall and Devonshire, England, and in Spain and Bohemia. It is also produced in large quantities in this country—Rockland, Me., being an important seat of their industry.

LIME WATER.—When mixed with an equal quantity or excess of milk, is an excellent remedy for vomiting caused by irritability of the stomach. A piece of lime as large as a hen's egg, dissolved in a pint of water, makes the ordinary mixture.

LIME.—A fruit resembling a miniature lemon. It is best known to commerce when prepared and sold as "pickled limes," and also as the fruit from which lime-fruit juice is made [which see].

LIME-FRUIT JUICE.—The lime is a fruit of the orange species, growing abundantly in the West Indies, in India and in some parts of Europe. Somewhat smaller than the lemon (about one and a half inches in diameter and almost globular), it has a very thin skin and an abundant juice, which makes its relative value much greater than its comparative size would indicate. Its juice is also much stronger (from a pharmaceutical point of view), and has an aromatic flavor. During the last five years a marvellous progress has been made in its cultivation, the development of its properties, and its adaptation to a variety of domestic and medicinal uses not previously attempted.

Lime-fruit juice (when pure), in any form, is an invaluable and infallible remedial agent in the purposes for which it is manufactured. In gout, rheumatism and like maladies, it is largely prescribed as an article of daily diet, and with the most beneficial results. As an anti-scorbutic, it is pre-eminent and without an equal; and has stood the test of centuries, no other article having been found nearly so efficacious. Prof. Doremus testifies: "It is not only a delicious beverage, commending itself to our taste, but a very acceptable and wholesome acid to the stomach, an adjuvant in its important share in the act of digestion." Those afflicted with rheumatic pains have been benefited by its use. Its valuable properties, as it is absorbed by the system, are well known to chemists, recognized by the medical profession, and thoroughly established by years of experience. Governments appreciate its high importance as a preservation of health and as an anti-scorbutic, and specially require it to be kept in stock in their naval and other stores. The *London Lancet*, an authority universally acknowledged on all subjects of an hygienic or sanitary character, or any matters connected with food and food products, says: "We counsel the public to drink lime-juice whenever and wherever they are. They may be assured that, as a rule, lime-juice is—particularly during the summer and autumn—a far more wholesome drink than

any form of alcohol; and that, say an ounce or two of the pure juice in a tumbler of really cold water, sweetened to taste, is about the pleasantest beverage that can be taken when the thermometer is over 65° or 70°. We commend this drink to all restaurants and coffee-houses; but caution them to procure the best and purest West Indian lime-juice, as much more wholesome than any mixture containing other ingredients." It is used for exactly the same purposes as lemon-juice; and, indeed, there are many more uses to which it can be applied, as will be seen by the following catalogue of forms in which it is now known and patronized by the trade generally. It is done up in various sized bottles, and is an extremely desirable article for fancy grocers.

As a SAUCE for the table, and to be used with roast meats, steaks, cutlets, chops, fish, curries, gravies, game and soups, the MONTSERRAT LIME-FRUIT JUICE SAUCE is much appreciated by connoisseurs.

In the shape of CORDIALS or LIQUORS, it is combined with aromatic spices and fruits, such as the Jagonelle pear, Peppermint, Pine-apple, Raspberry, Strawberry, Sarsaparilla, etc., the fruits and root essences being of guaranteed purity.

It is also combined with pure QUININE, and with the purest and most innocuous tonic herbs as a BITTER.

The most concentrated and useful form for confectioners, licensed victuallers and others, in which it is sold, is the LIMETTA CORDIAL—being the concentrated extract of the lime, simply *cordialized with sugar*, but so prepared that the flavor, which is objected to by some, is entirely covered.

It has also been brought in successful combination with fancy biscuits, and with crystallized and gelatinized fruits, and the most popular confections known in England and imported into this country, being manufactured with this ingredient.

LIMITATIONS (STATUTE OF).—On account of the frailty of human memory and the uncertainty of such claims, all countries have set a limit upon the time within which rights may be litigated, called the Statute of Limitations. The statute begins to run when the right is complete; that is, the money is due and payable, subject to certain exceptions in favor of minors, persons beyond seas, and those not of sound mind; and after it begins to run, is not estopped by anything except a payment on account, or an acknowledgment of the debt, accompanied by an express promise to pay it, which, in some states, must be in writing. In either event the debt is revived, and the statute begins to run over again from that date. The limitation being regulated by the legislatures of the various states, differs greatly throughout the United States. New Mexico is the only state without such a statute. It may be said generally that claims founded upon instruments in writing, under seal, are not within the statute of

any state. The period within which suits must be brought on contracts in writing (like bills and notes), contracts not in writing (like *sales of goods evidenced by book accounts*), is six years in Colorado, Dakota, Indiana, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont and Wisconsin. Five years in Montana and Nebraska. Three years in California, Delaware, Maryland and North Carolina. Two years in Nevada. In the other states a difference is made between suits on contracts in writing and on contracts not in writing, as *store accounts*, in respect to the period of limitation. It is six years in the former and four years in the latter case in Georgia; six years in the former and three in the latter in Connecticut, District of Columbia, Mississippi and Washington Territory; five years in the former and three in the latter in Kansas, Louisiana and West Virginia; five years in the former and two in the latter in Missouri and Virginia; four in the former and two in the latter in Idaho, Texas and Utah.

LINSEED-OIL.—Made from the seed of the flax-plant, is usually of amber color, but when pure is quite colorless. It has a rather peculiar and unpleasant odor and taste. It is produced by crushing the flaxseed and pressing it. It is sold mainly by weight, seven and a half pounds being reckoned to the gallon. The cake, from which the oil has been expressed, is called oil-cake, and is used to fatten cattle. It is frequently boiled, when it is used to mix with oil-colors for artists and house painters.

LIQUORS.—A class of spirituous beverages, sweetened and flavored with aromatic extracts from seeds or fruits. They vary considerably in strength, flavor and quality. *Ratafias* are simple, light liquors, containing small quantities alike of the sugar, spirits and flavorings. Such are anise-water, noyeau, apricot and cherry ratafias, etc. *Oils* or *fine liquors* are much stronger, and among them we find Maraschino, Rosoglio, Curacao, Dantzic water, etc. Various qualities and proportions of the ingredients are graded and designated by French names, such as Eau-de-Noyeau, or Creme-de Noyeau.

LIQUID MEASURE.—A measure by which all liquids are sold. [See Tables.]

LIQUID RENNET.—Prepared from the dried rennet of the calf. It may be prepared by steeping the rennets in whey or brine for several weeks or months. It is used to coagulate milk, and in the manufacture of cheese. It should be delicately prepared, and is sold generally to a nice class of customers. It comes in small bottles, about the size ordinarily used for extracts.

LOBSTERS.—The common lobster of the United States has the general appearance of the craw-fish, but is of larger size and lives in salt water. It is distinguished from the rest of the lobster family by the immense size of its claws. There is only one American species found from the coasts of New York northward. The best are taken on the rocky shores of New England, north of Cape Cod. The number of lobsters consumed annually in the United States is simply enormous; it is estimated that Boston alone consumes 1,250,000 annually. In Boston the male lobster is preferred; in New York the female has the preference. In winter the supply is chiefly derived from Maine, and they are there found in comparatively deep water. The limit of salable size in Massachusetts is ten and a half inches. During cold weather lobsters are shipped to the interior cities, and immense quantities of the meat of the fish are canned and sent to the various States of the Union, and to the remotest sections of the American continent, as well as exported to Europe. It ranges in weight from one to fourteen pounds, and its best season is from October to May. It is a favorite article of food in all parts of the world, in all forms—fresh, canned and mixed with salad. One peculiarity in the lobster is that it grows only while its skin or shell is soft; or, in other words, while it is moulting or casting its shell, the rapidity of its growth at this time being wonderful. They are very voracious in their habits, and frequently have very animated combats among themselves, when one of the combatants is pretty sure to lose some part of a leg or claw; but another one grows in its place, which is always smaller than the one missing.

LOGWOOD.—A name applied to a dyewood obtained from a tree growing in Campeachy, Honduras and other sections of tropical America. It has recently become naturalized in Jamaica. Logwood was used as a dye in England soon after the discovery of America, from whence it was obtained; but it met with much opposition by Queen Elizabeth, an act being passed prohibiting its use. In 1661 the act was repealed, and the use of logwood was rapidly increased. It was obtained from the Spanish possessions in America, and by a special treaty the English were allowed to cut and ship wood in the Bay of Campeachy, from which it was frequently spoken of as Campeachy wood.

LOVE APPLE.—The Tomato was introduced into this country from France by this name; though it is now only known under this name [which see].

LOZENGES.—Flat, circular or oval candies, composed chiefly of farinaceous matter, sugar, gum or isinglass; employed largely in medical practice, as a convenient method of administering drugs and medications as a remedy for various maladies; there are also various

kinds of lozenges flavored with fruits, etc., which have become quite popular.

LUCCA-OIL.—A name for olive-oil [which see].

MACARONI.—This article of universal consumption in Europe and America is strictly an Italian invention, originally formed of cheese and paste. For a very long period its manufacture was entirely confined to that country, the finest qualities even to-day being made there. Correctly speaking, the name *Macaroni* only applies to wheaten paste manipulated in the form of pipes, while *Vermicelli* and paste are the same article in other forms. The very hardest wheat is the only kind properly applicable to its manufacture, in consequence of its glutinous properties. For choice sorts, native manufacturers use the wheats of Odessa and Tagaroz. Briefly, the process of its manufacture is, the wheat is first ground into coarse meal, the bran being separated in the ordinary way; in this state it is termed *Semola*; during the grinding it is absolutely necessary to apply heat and humidity to make *semola* of good quality. The *semola* is worked into dough with the addition of water; for *macaroni* and *vermicelli* the dough is then turned into a press supplied with a perforated bottom, and cut in desired lengths as it passes out; a wire hangs in the centre of each hole in the press, to form the hollow in the centre, the paste being partially baked during this process to maintain its form. The whole of the manufacturing in Italy is executed in the most primeval manner. The finest quality is that possessing the whitest appearance, and which when boiling, does not split, but swells considerably and becomes quite soft, at the same time maintaining its form. If it fails to bear either of these tests, it has been made from inferior wheat.

The consumption of macaroni in this country constantly increases; and as it is a nutritious, cheap and convenient article of food, it is becoming deservedly popular. *Vermicelli* is made in the same way and of the same material, the only difference being that it is smaller, thinner and without perforation. Cooked with sharp cheese, boiled plainly and eaten as a vegetable with plenty of salt, in soups and in many other ways, it makes a palatable and economical dish, suited to all classes. American manufacturers have, in some cases, produced an article fully equal to the imported, but in too many cases have injured the reputation of the domestic article.

We believe that no better and cheaper articles of food can be generally introduced to the American public than Macaroni and *Vermicelli*. The immense supplies of wheat in this country call for the use of every mode of preparing it for the table that can be developed. We cannot eat it as a vegetable with meats in any other form than this, which the Italians have taught us, and except in bread, there seems to be no usual way of eating it without sweetening. In cake,

and in wheaten-grits porridge, our flour is generally surfeited with sugar to such an extent as to make it anything but a staple for diet. Healthy, cheap and very nutritious, we cannot too strongly advocate the general adoption of macaroni upon our tables. The American manufacturers are steadily improving their product, and turning out an article which is firm and retains its shape even after continued boiling, and does not have a slimy or pasty surface after being cooked. There is a flavor about the foreign article which is seldom reproduced in the domestic manufacture, and we must acknowledge that, although some of our home brands are equal to any Italian goods in the market in sweetness of flavor, being made from better flour, but few of them are equally firm when cooked.

MACE.—Mace is the inner covering which envelops the nutmeg. It is carefully cut out, and resembles a lacerated membrane, being blood-red and somewhat fleshy when fresh. It is then prepared for the market by being dried for several days in the sun, and carefully flattened out. It becomes yellow in drying out. It has a peculiar strong, yellow, volatile oil, which can be extracted by the ordinary processes of distillation. • It also contains a red, buttery fixed oil, which, when mixed with other substances, is known as Nutmeg Balsam. Mace has much the flavor of nutmeg, but has a peculiarity which, to most tastes, is preferable. Care should be taken in selecting to choose that with a deep orange color, wax-like appearance, clear and transparent. Dull-looking parcels should be avoided, never being genuine mace, but what is usually termed “commerce mace.” It comes usually from Penang and Singapore.

MACHINE AND LUBRICATING OILS.—These may be of either animal, vegetable or mineral origin. Sperm oil mixed with spermaceti, and refined whale oil, are the best of the animal oils for lubricating purposes; after which comes lard-oil, which is excellent. Neats-foot oil is used, to some extent, as a machine oil. Vegetable oils, found ready formed in the seeds, nuts and other parts of various plants and obtained by pressure, are of very great variety, and are naturally divided into classes: 1.—Drying oils, of which linseed-oil is an example. 2.—Fatty or non-drying oils. The dry oils cannot be employed as lubricants, but any of the second class may be used for this purpose.

The best mineral lubricating oils are such as have been subjected to fractional distillation, and the more volatile compounds expelled. Of these the best example is the heavy lubricating oil obtained from the paraffine oil of the petroleum refineries. It is produced in great quantities, and is of excellent quality. Crude petroleum is considerably used, and is tolerably good under light pressure. Most of the machine oils in market are mixtures of a variety of different oils, usually consisting of one which will give good body mixed with

other less valuable ones. Mineral oil with lard oil is a common mixture.

MACKEREL.—The most important species of this numerous family are the *S. vernalis* of the North American Atlantic waters, and the *S. vulgaris* of the European seas. The common mackerel of our coast is found in all the North Atlantic waters. Mackerel fishing is extensively carried on in Massachusetts and Maine—Gloucester and Yarmouth being the great centre of fishery in this country. They are usually caught by seining; but in the gulf of St. Lawrence the fish are taken by hook and line. The mackerel is considered by many the most beautiful of all the fish which find the way to our markets—their time of arrival being usually about the beginning of May. They are seldom brought in a live state to our markets, and are generally hand-salted in barrels, but of late years they have been largely packed in tin cans. The fish are carefully selected and placed in the barrels, and numbered for the market, 1, 2, 3, 4, etc., according to the quality. It is necessary that No. 1 quality should not be under thirteen inches, free from taint, damage and rust, and fine, fat fish. No. 2 must be fat and free from rust, and not less than eleven inches. No. 3 is what are left in the selection of Nos. 1 and 2. No. 4 is what are left in the selection of the other three brands, but must be without damage or taint. Mackerel are packed into barrels or kits, containing from fifteen to two hundred pounds; and whether packed in that way or in cans, can be opened and sold without injury to the fish or risk to the dealer. Mackerel taken in June are considered superior to the fall catch.

The packing and repacking of mackerel is an extensive business; and the result of *repacking* is not always satisfactory, either to dealers or consumers. For example: a barrel of mackerel should weigh two hundred pounds; two half-barrels, then, should weigh one hundred pounds each; but it too often happens that the half-barrels come fifteen or twenty pounds short of their proper weight. If a half-barrel weighs eighty pounds, the repacker has saved for his own profit forty pounds (or two kits of mackerel)—of course, so much dead loss to the buyer. This system of underweight has now assumed such a magnitude that there is an urgent demand for some law, properly enforced, to regulate weights and measures, or some system of inspection to prevent the fraud and robbery now going on. Some of these, or perhaps the majority of cases of short weight, are specially enacted for the benefit of the country trade. The country dealer, supposing that his half-barrel of mackerel weighs one hundred pounds, bases his sale-price and profits on the one hundred pounds; finding, when he reaches the bottom of the barrel, that he is short twenty pounds—and, of course, a good share of, if not all, his profits on that half-barrel. If he finds out the short weight before commencing to

sell, the loss of the twenty pounds is made up in increase of price to the consumer. The same system of packing is carried on in respect to kits, which ought to contain *one-tenth* of a barrel, or twenty pounds. They are often short three, four or five pounds. The remedy is easy—test the weight before buying. We would advise our readers to weigh all their purchases of fish, and learn if the weight paid for has been furnished.

There have been inspected in Massachusetts alone, during the ten years preceding 1874, 2,316,083 barrels, or an average of 231,000 annually; during the last nine years—that is, to 1883—the annual inspection has included from 250,000 to 260,000 barrels, which, at the low estimate of \$12.50, gives an annual product of \$3,250,000 from the salt-mackerel department of the fishery industry of Massachusetts. As late back as 1850, Prof. Storer estimated that upwards of eight thousand barrels of *fresh* mackerel were sold in the Boston market alone. During the thirty-three years which has elapsed, the increased facilities for transportation has augmented this traffic fully fourfold, so that the trade in fresh mackerel at the “Hub,” can be fairly reckoned at seventy-two thousand barrels per annum. Immense quantities are carried to New York market direct during the spring and early summer, counting which and other places, it would seem a safe calculation that more fresh mackerel are sold than salted. Estimating their values on the same basis as the salted fish, and allowing only the low estimate of \$6,000,000 for all the mackerel caught in Maine and the other States, we have \$6,000,000 annual income to the industry of the State, on an outlay of \$13,000,000. This \$6,000,000 is purely productive; every dollar comes from the ocean. Not even farming is so pre-eminently and entirely a productive industry. The fisherman ploughs an untaxed furrow that needs no replenishing year by year. It is almost incredible how fast mackerel may be caught by a trained crew. The mackerel sometimes come up so fast that the whole side of the vessel shines like silver. In July, 1842, a crew of eleven men and boys “struck a school” of biting mackerel on St. George’s Bank. In *twenty-five* minutes they caught *twenty-three* strike-barrels, barrels so full that the live mackerel jumped out.

Spain, Spanish America and the south and west of the United States, are the great markets for salt mackerel, the annual customs receipts of which now reaches 580,000 pounds, valued at \$2,900,000.

MADDER—Is a red dye made from the roots of a plant of that name. It is a native of Southern Europe, and largely cultivated in France, Asia Minor and Holland. Its cultivation in the United States, though perseveringly tried, has not been very successful. It is largely used in the printing of calico, and is often adulterated with sawdust of pine barks, mahogany, logwood, etc., which materially impairs its efficiency as a dye. Madder has the peculiar property, when fed to animals, of tinging the milk, urine, and bones, red.

MALAGA GRAPES—Is the name given to the large, white, imported grapes which come here packed in barrels and half-barrels, weighing about sixty and thirty pounds net. Though termed Malaga, it would be quite erroneous to suppose that that was the place where they were grown, for it is only the port of shipment. They arrive in the month of August, and continue until late in the year. It is always best to keep them in a cool, shaded, dry place, and when unpacked, care should be taken to brush them well with a soft brush, to remove the cork dust in which they are packed. The finest of them are of excellent flavor, and among the best fruits in our markets.

MALT.—Grain sweetened by being allowed to germinate or sprout, and afterward dried by a certain process, and subsequently used in brewing. Wheat, rye, oats or barley, are steeped in water for twenty-four hours, and then heaped up until the sprouts on the grain are one-eighth of an inch long. They are then spread out to dry, and afterwards kiln-dried, which arrests further germination, and retains the sweetening or saccharine properties.

MALT EXTRACT—Made from an infusion of the kiln-dried grain with water at 165°. After draining and evaporation, it is used as a remedy in irritable forms of indigestion, and very generally as an anti-scorbutic. The genuine extract contains all the soluble ingredients of malt and the bitter principle of the hop. There are several excellent "extracts" in the market.

MALT VINEGAR.—A strong vinegar in general use in England, especially for pickling purposes, and giving an entirely different flavor from American goods put up in cider vinegar, or the adulterated acid preparations made in the various ways described under "Vinegar" [which see].

MANGO.—An East Indian fruit much valued by the natives, and made the basis of Chutney sauce. The unripe fruit is used to make tarts, and is preserved in various forms.

MANILLA—Is a species of Hemp shipped from the port of that name in the Philippine Islands, where hemp is extensively grown and exported from thence. This hemp, on account of its strength, is often used to make rope and paper, which also bears its name, and is in great demand among grocers and other tradesmen, for bags and wrapping purposes.

MANUFACTURERS.—Formerly the distinction between the jobber and the manufacturer was much more distinctly marked than at present, it being very usual now for wholesale grocers to put up goods under their own brands. This forces the manufacturer to seek the retail trade direct, and makes many vital changes in the mode of

doing business; for, as a rule, a manufacturing jobber in groceries cannot sell goods bearing his own brand to other manufacturing jobbers who put up similar goods, nor to any other jobbers, except at some distance from the point of manufacture. Consequently the large jobbing grocery houses, having their goods in the market, cannot encourage or push the sale of goods regularly manufactured by the original manufacturers, without injuring themselves, or, at any rate, having to resort to extraordinary means to keep their own goods on the trade-lists. This state of affairs has been growing more and more serious and threatening for several years, until now it has become a necessity for the legitimate manufacturer to become himself a jobber, in order merely to hold his own. There was a time when jobbers were content to sell the goods of the manufacturer, and not make and put up their own soap, starch and baking powders, cigars, canned goods, and the thousand and one items pertaining to the grocery trade, thus becoming monopolists in the worst sense of the word, and driving competition to a ruinous issue. It is no longer a question of the right of the individual, but a matter of serious moment, and even commercial existence, to one or both parties. We thoroughly appreciate the position of both the manufacturer and the jobber. They naturally wish all the trade they can get, and desire to avoid giving offence to any leading house. We can conceive of but one satisfactory solution to the problem—and that is for the manufacturers to bring themselves into direct contact and competition with the very trade that the leading jobbing manufacturing grocery houses control, and sell their goods to the general jobbing and best retail trade in the country. The retail merchants of the country at large are deeply interested in this subject. Whether they are to be simply the agents, so to speak, of one house selling all its goods under its own name, and chiefly confined to what the house chooses to push on them, or whether they are to have the choice of all the best goods made in the country, are questions which demand their immediate consideration. The advocacy of the latter policy has ever been enforced by the NEW ENGLAND GROCER, and other honest, fearless trade-journals; the maxim of perfect freedom to all classes, and perfect identity of interests and direct communication between the manufacturer and the retail dealer, having been the fundamental principle which has guided its efforts and controlled its columns.

MAPLE SUGAR.—This is made in large quantities in the Northern United States from the sap of the sugar maple tree, a native of the United States and Canada. The sap is collected by boring the trees several feet above the ground, to the depth of half an inch, with an auger. A spout or lip is then inserted in the holes, and pails placed beneath to catch the flowing sap. The trees are tapped in the early spring, just after the first thaws. A good tree will yield about

six or seven pounds of sugar each season. The juice is boiled to a syrup, then strained, clarified and crystallized. It appears in our markets in cakes, and as it commands a good price, is often adulterated with other sugars; and when sold as a syrup in cans or bottles, is often nothing but ordinary syrup, flavored to resemble maple sugar. Both the maple sugar and the syrup are much prized on account of their extremely pleasant flavor; and as this flavor would be destroyed by any refining process, the sugar is never refined. The sources of supply are Vermont, New York, Ohio, New Hampshire, Michigan, Pennsylvania and Indiana—the annual yield of maple sugar being about 30,000,000 pounds, and of maple syrup 1,100,000 pounds.

MATCHES.—The progress from rubbing sticks together to produce fire, up to the flint and steel and tinder, which appeared to be always damp—on to the first match, which was merely tipped with sulphur and used in the tinder; thence to the “light-box,” in which sulphuric acid served to ignite a prepared match; and thence past the first clumsy “Lucifers,” which were drawn through a folded piece of sand-paper, up to the modern or “Congreve” match, marks the progress of civilization and the growth of comfort and convenience, with its developments. The chemist Faraday introduced the first Lucifer matches.

The wood used in making matches is the best straight-grained soft pine, which is cut into blocks and then shaved into strips by knives which act transversely. These strips are the length of two matches, and are passed through a hopper which drops them at regular intervals into a revolving tape or belt, which binds them into a circular bundle like a double brush. This bundle is then flattened down with a heavy planer of the same size, and put into a kiln to dry. One end is then dipped into melted sulphur or paraffine wax, and when it is dry the other end is dipped also. Then follows the dipping into the phosphorus preparation, after which the belt is unrolled and the matches are made, except that they are of double length and tipped at both ends. They are then cut in two by machinery, and packed into boxes.

SAFETY MATCHES—Are those which will not ignite unless they are rubbed on a specially prepared surface; but, being found inconvenient, they are not generally used.

PARLOR MATCHES—Are generally perfumed, and are dipped in paraffine instead of sulphur.

CARD MATCHES—Are made in the form of a comb, and are universally used in New England. As they are very convenient for the pocket, and not so liable to be dropped, they are well suited to the use of railway, and warehousemen, and farmers. Matches are a most troublesome article in stock. Dangerous at all times, difficult

to ship with other goods, and refused by most railroads, unless on special days and under strict terms, they are a necessary evil, and should be made to pay a good profit.

MARJORAM (SWEET).—Is a herb used for seasoning in cooking. It is used in medicine as an infusion, in which it is a valuable stimulant, tonic and remedy for nervousness. The oil is used as a remedy for toothache and rheumatism. The Sweet Marjoram of our gardens is a native of Greece, and used in the same way as wild marjoram.

MARMALADE.—A conserve, made of the harder fruits, such as the Apple, Pear, Quince, Pineapple, Orange, Lemon, etc., with proportions of the rinds of the two last named, and a large quantity of sugar. It is evaporated sufficiently to assume given forms in a mould. Conserves are sometimes made of apricots, peaches, plums, berries and the softer fruits, but these are, properly speaking, *jams*. Oranges and lemons are the most popular marmalades known, and are thus made: The rind is boiled by itself first, then the white inside coating is removed. The rind is then cut up into small strips and boiled with the expressed juice of the pulp, and a quantity of sugar equal in weight to the other ingredients. After the mixture has attained its proper consistence, it is treated like other preserves. The Seville bitter oranges have, for a long time, been the favorite fruit used in the manufacture; but of late years, several houses in Florida and the surrounding region, have been successfully engaged in the manufacture from native fruit.

MARROWFAT.—A variety of large pea (grown for domestic use), which ripens quite late in the season.

MARTYNIAS.—The fruit of a plant native to the valley of the Mississippi and the plains of Mexico. The whole plant has a clammy appearance, with a viscid, pubescent and fetid odor. The long-beaked fruit, when young, is used for making pickles.

MATS.—Mats, properly speaking, are textures formed of barks, rushes or reeds. Coffee, figs, sugar and various other articles, are shipped from the Pacific ports in such bags, and are called mats of coffee, etc. Dates are similarly packed, but their coverings are called *frails*.

MEAD.—A fermented liquor made from honey. The honey is mixed with water, and fermentation is produced by the use of soda and yeast. It was at one time a fashionable drink.

MEAL.—Meal is any kind of grain coarsely ground, such as Oat meal, Corn meal, etc. It is used in various forms as an article of food.

MEASURES.—[See “Weights and Measures,” and “Sealer of Weights and Measures”.]

MEAT (FRESH).—It is both dangerous and unprofitable for a grocer to sell meats, unless he has his store suitably fitted up, so that he can handle them with a certain degree of safety. [See “Store Fittings”.] With the grocer, the great enemy in hot weather is the fly, which leaves its eggs in some moist crevice of the meat. It is surprising with what rapidity the eggs hatch, or become live maggots; consequently it is very needful that a keen watch should be kept, in order to arrest their development. When discovered, apply salt water or vinegar, which will, as a rule, remove all traces. Meat kept on ice loses its flavor, and does not grow tender, as is the rule, with age. But, when put on ice, it is advisable not to thaw it unless ready to cook, as it soon becomes spoiled. When a grocer handles meats, they should invariably be of the best quality.

MEDICINES (PATENT).—This term covers all proprietary medicines, and, of course, includes many that are positively worthless, and a few that are valuable; but it is useless to decry the entire class because the majority are worse than valueless. Many simple forms of medicine for external application or relieving colds, etc., are of great value, because they can be conveniently and reasonably procured. They pay the dealer a good profit, and the trade is very wisely giving more attention to them every year.

MELONS.—This class includes a large variety, from the Cantaloupe to the Watermelon. The most popular is the watermelon, which is supposed to be a native of Africa, though seldom found wild. It is very extensively cultivated in all warm climates, and flourishes best on the warm soils of New Jersey and the Southern States. The *Mountain Sprout* or *Carolina*, is, perhaps, the first to make its appearance in the northern markets. There are also the *Black Spanish*, a good variety, almost round, a medium size, sweet and delicious. The *White Japan*, *Skillman's* *Netted*, *Persian* *Isbahan* and *Christina* follow. The *Citron Melon* is small, nearly round, with variegated shell and seedy flesh. It is used for making preserves, syrups and sweetmeats.

METRICAL SYSTEM.—The French system of measurement of liquids and solids, which is based on the decimal calculation, and is destined to become universal, has become legalized in the United States. It is intended to regulate and simplify the weights and measures of every nation, and supply a uniform standard, which shall be understood and acted upon by every government official on the face of the globe. The customs officers of the United States and the European governments have already acquired a knowledge of its gen-

eral principles, and in the course of a few years, the present complicated system of weights, and measures, and coinage, will undoubtedly be entirely superseded by the metrical system.

MILDEW.—A certain diseased condition of vegetables, fruits and fluids, caused by the growth of small fungi. Many of the most destructive mildews are of a red and brown color—as the mildew of the pear.

MILK.—This necessary fluid, the produce of the cow, needs no description. Investigation proves that there are very few cases of adulteration, properly so called, except with water, which, unfortunately, is but too prevalent. The presence of starch may be tested by dropping a little iodine into it; if a violet blue color forms, starch is present. Chalk settles, and if these settlings are dissolved in vinegar, they will foam up.

MILLET.—A grain, of which there are many kinds; some furnishing the best of fodder; others used for feeding caged-birds; while that grown in Peru is made into a white flour, which is extensively used in that country as an article of food.

MINCE MEAT.—The season for mince meat opens about October 1st, and continues as long as the cold weather. It is important to have a supply on hand before the actual demand sets in, rather than after it has commenced. In common with all mixed articles, mince meat can be made in various ways, and much that is offered is trash; so much so, that many families prefer to prepare their own supplies. For information regarding the best makes, the prices, etc., we refer our readers to the columns of the NEW ENGLAND GROCER.

MINERAL WATERS.—Bottled Mineral Waters are termed “soft goods” by saloon-keepers, and are profitable stock to retail grocers, both in the profit-margin they leave, and because they draw good trade from the more extravagant classes. The higher grades, such as genuine Apollinaris Water, and the various mineral spring waters, are easy to handle, if kept in a cool place and laid on their sides.

MINT.—There are various species of this plant, all of which are more or less medicinal, containing an essential oil. The *Peppermint*, the strongest of its kind, is used for making oil of peppermint, which is extensively used for flavoring candy.

MOLASSES.—Molasses is the syrup, or, as it is termed in the immediate districts where it is manufactured, the mother-water that is separated from the crystals or grains of raw sugar in the process of manufacture; when the sugar is becoming dry or crystallized, the syrup drops from the grains as honey does from the comb. The name

molasses in this country, is erroneously given to sugar-house syrup, known as *black strap*, which in England is called *treacle*, made from the last boilings of common sugar. In France and the rest of Europe, *treacle* and molasses bear the name of molasses indiscriminately, with the exception of Germany, where they are both designated as syrup.

The quality of molasses depends entirely on the color, strength, and most of all the treatment of the raw sugar from which it is obtained; consequently it is impossible to get fine, bright, clear, good-flavored molasses, except from sugar of excellent quality, both in color and flavor. A strong, but in other respects undesirable, quality of molasses is obtained from clayed sugar, but it has a tendency to become acid, which, even in the best quality, can easily be detected by its tainted flavor. By strong molasses, we mean that most capable of producing a large percentage of granulated sugar. The heaviest molasses, although containing much less water, and, therefore, a greater quantity of saccharine or sweetening matter, is not, as a rule, the strongest—its thickness very often being the surest sign of the presence of grape sugar, and many other impurities detrimental to obtaining good granulated sugar. The best molasses is that obtained from the first crops collected previous to the copious periodical rains, which occur where the cane is cultivated.

Molasses generally is of a dark-brown color, but the best grades are those produced at St. Croix, Barbadoes and Porto Rico, being of that bright amber color and sweet, clear flavor, so much esteemed by lovers of this cheap and appetizing adjunct to our table. It is a strange feature with molasses, that its consumption is almost entirely confined to English-speaking communities.

The more the improvements taking place in the manufacture of cane sugar the less molasses we shall have, because it is not nearly so profitable as to crystallize the sugar. Molasses is handled in barrels, tierces, puncheons and hogsheads, which contain approximately forty-five, eighty, one hundred and twenty, and one hundred and fifty gallons. New Orleans molasses is always shipped in cypress barrels, and the new crop arrives in market about November 1st. Do not buy molasses that has had the original gauge of the hogshead changed. Only the outs are liable to change. Every grocer should have an out or ullage stick (United States standard), which can be procured for about one dollar of the hardware dealers.

MUCILAGE.—The Mucilage of commerce has for its basis gum arabic dissolved in water. The cheaper kinds contain a large amount of gum tragacanth, shellac or other inferior kinds. It is sold in bottles of the size and shape of the ordinary writing-ink bottles.

MUSH.—Mush or Corn-meal Porridge, is now prepared and supplied to the trade in tin pans, holding about five pounds each. Families buy it for frying. It obviates the risk of lumpiness, burn-

ing, etc., against which some housekeepers fail to provide, and is quite saleable.

MUSHROOMS.—Mushrooms are eaten as a fruit with salt, or as a dressing with meats. In France they grow very profusely in the neighborhood of vaults, catacombs, and heaps of refuse. They are much valued by epicures, and sold in cans by the trade. They are gathered in considerable quantities in the pasture fields around the large cities. The gathering of these fungi is said to be a profitable employment. The mushroom springs up in the night, and withers as soon as the sun comes up; consequently the gatherers have to begin their search before the break of day. An active man or boy can secure, when they are at all plentiful, from one to ten quarts in a morning, and they are disposed of readily at from twenty-five to fifty cents per quart. It requires a quick and experienced eye to distinguish between the edible mushroom and the poisonous toadstool, and gatherers who are not well-known, have some difficulty in disposing of their collections. The hotels and wealthy people take pretty much all the mushrooms that are gathered. Why is it that nobody cultivates mushrooms in America? If anybody is in the business, it must be on a very small scale. Even the wild mushrooms are seldom gathered, yet, when they are brought to market, they are rapidly sold at good prices. Forty cents a quart is not a small sum to ask for what can be picked up in five minutes. The mushroom is a delicacy liked by every one, and to raise it is an easy matter. As it is, by far the greater part of our mushrooms come in cans from France, and are not to be compared to the fresh article.

MUSK-MELON.—This is said to be a native of Persia. The fruit is very variable in size; it reaches its perfection in the Southern States, but is also successfully cultivated in the North. There are many mixed varieties, but the purest and most generally used are the Green Citron, a medium fruit deeply netted, green flesh, delicious flavor and almost round. The Nutmeg, fruit nutmeg-shape, skin deep green, thickly netted, flesh greenish yellow, sugary and of excellent flavor. Musk-melons for shipping, are commonly packed in crates containing from one to two dozen.

MUSTARD.—There two kinds of mustard-seed, black and white. When the condiment now known in the grocery stores as Mustard was first introduced into England, it was nothing more than the crushed seed. The manipulation gradually developed, as it became necessary for the manufacturers to cater to the public taste, and the result is that each manufacturer now has his own recipe for making the condiment. Genuine mustard is easily attainable, but it is found that it does not answer the purposes and supply the wants of the public so well as the preparations made by eminent manufacturers. The

duty on ground mustard, imported into this country, is fourteen cents per pound, and as the whole mustard-seed comes in free of duty, it is unquestionably to the interest of the trade and the public to handle good brands.

There are several good brands of *made mustards* imported in fancy jars, from France and Germany—the *French mustard* being very piquant in flavor, and the *German mustard* mild and palatable. As commonly prepared, mustard is largely adulterated; rape-seed, turnip-seed too old to vegetate, and wild radish, are often ground with it. After being ground it is adulterated with wheat flour and turmeric; as mustard contains no starch grains, the presence of wheat flour may easily be found by the use of the microscope. Turmeric may be known by its being colored brown by a weak solution of ammonia. Mustard is largely used as a condiment, and also in medicine; swallowed in any quantity with water, it acts as a prompt emetic, and is useful in cases of poisoning; mixed with water and made into a paste, it is applied to the skin in the form of a plaster.

Mustard was little known before the year 1729. About that time, an old woman of the name of Clements, residing in Durham, England, began to grind the seed in a mill, and to pass the flour through the several processes necessary to free it from the husks. She kept the secret to herself for many years, during which she sold large quantities of mustard throughout the country, but especially in London. Here it was introduced to the royal table, and received the approval of George I. From the circumstance of Mrs. Clements being a resident of Durham, it was ever afterwards known as Durham Mustard. Though there is no "official" record of its introduction to America, there is every evidence to prove that it was well-known in the American colony long before the "Boston Tea-Party" administered their famous "Mustard Plaster" to the mother country, in the shape of the Declaration of Independence.

MUSTARD (OIL OF).—From the mustard-seed an oil is extracted by expression, which is called *Oil of Mustard*; it is a fixed oil, with but little smell and not unpleasant taste. After the fixed oil is extracted from the seed, there is obtained from the residue a volatile oil which is of an exceedingly pungent odor, and having sulphur among its constituents; sulphur is also present in flour of mustard, and is the element that causes silver to turn black when the mustard is mixed with water or vinegar.

NAILS.—Nail making by machinery was introduced into Massachusetts in 1810, and has since reached great perfection. The fact that in 1776, when nails were made by hand, it took an entire day to turn out six pounds of nails, and that now one thousand pounds are completed in the same time, will give an idea of the improvement which has been effected in this industry. Many persons are puzzled

to understand the meaning of the terms by which the various sizes of nails are distinguished, such as "tenpenny," "fourpenny," etc. "Fourpeuny" signifies four pounds weight to the one thousand nails; "sixpenny" six pounds to the thousand, and so on. It is an English term, and meant at first "ten-pound," etc., which was afterwards clipped to "ten-pun," and from that degenerated into "ten-penny." When a thousand nails weigh less than a pound, they are called tacks, brads, etc., and are reckoned by the ounce.

NASTURTIUM.—Sometimes called Indian cress; used as a salad. The buds and seed-pods are pickled and used as capers. It is a native of South America. They are gathered in August.

NUTS.—The nuts which may be considered of the greatest commercial value are the hazel-nut, black Spanish, the Barcelona, the Smyrna, the Jerusalem filbert and the common filbert, the peanut, shellbark, English walnut, chestnut, hickory, Pecan, butternut, almond, cocoanut and the Brazil or Para nut. The more important are spoken of separately in their proper place.

NUTMEGS.—This well-known spice is the kernel of a fruit called *Myristica*, of which there are forty different species, all of them of tropical growth, and native to South America, Asia and Madagascar. The Penang Nutmeg is the finest and best. In purchasing, those are the best quality which have an oily appearance and are heavy; light, dry, dull kinds should be avoided. Various ingenious methods are resorted to for concealing defective nutmegs, and it is said they are perforated and boiled in order to extract the essential oil, and the orifice carefully closed to avoid detection; but they may easily be told by their light weight. Mace and nutmegs are used as condiments, and, to some extent, in medicinal preparations. The annual consumption of nutmegs in the United States is estimated to amount in value to \$750,000. The nutmeg trees bear fruit nearly all the year round, are very fruitful, bearing from three thousand to four thousand on a tree, and are very long-lived, existing from seventy to eighty years. As an article of commerce, they are popular and profitable. An extract of nutmeg, used for flavoring purposes, has become quite popular within a few years.

OATMEAL.—The ground grain of oats, peculiarly adapted for human food, and specially conducive to a healthy and vigorous constitution. The several varieties of manufacture are distinguished by the terms pin-head cut, rough-cut, medium and fine-cut. After the grinding, the meal is passed through sieves, and the siftings graded according to size. It would be well for grocers to remember that, in a certain sense, oatmeal is a perishable article. By exposure to the air for a few weeks, it becomes old, rank, and acquires a bitter, disagreeable taste. In the oatmeal mills a sort of funnel, air-tight, ex-

tends from the top to the bottom of the mill, in which the oatmeal is packed. In keeping oatmeal in stores, it must be protected from the air; packing in air-tight boxes or paper bags will preserve it. The use of oatmeal is rapidly increasing in our large towns and cities, under the influence of the universal approbation of physicians and medical experts, though it is not so extensively consumed in this country as in many of the European countries. The Scotch oatmeal is considered the best, and it is a staple article of diet in that country. The grain is very rich in gluten and fat, and contains a considerable quantity of starch and sugar, being everywhere recognized as a valuable food. It cannot be leavened into bread, but it makes good cakes.

GROATS—Are the whole kernel of the oat when freed from its husk; it is boiled in milk or water for the preparation of gruel, and requires a long time to thoroughly cook it.

OILS (VEGETABLE).—The liquid vegetable oils are very numerous; first in rank, from a commercial point of view, is *Olive-oil*, made from the ripe fruit of the common olive; when good and fresh, it is of a pale, greenish-yellow color, almost free from smell or taste, except a sweetish, nutty flavor, much esteemed by those who use it. The culture of the olive is one of the chief commercial resources of the countries of Southern Europe and the Northern States of Africa. It has been cultivated from the earliest times, and is commonly mentioned in the Scriptures. The finest qualities are Provence oil, Florence oil and Lucca oil. Common kinds are easily detected by their brownish color and disagreeable smell; those are used for cooking. The Genoa is used for the same purpose in Europe, and the Gallipoli, which is still more inferior, is used in cloth-dressing, Turkey-red dyeing, and other manufacturing purposes. The high price of the best qualities makes adulteration very tempting. The finest quality is obtained by gently pressing the fruit. All of the other liquid vegetable oils are obtained from seeds. Very large quantities of cotton-seed oil are exported from here to the south of France and other countries, and imported again as olive-oil. The manufacture of olive-oil must be commenced in the first half of November, because the fruit ripens at this time in Provence. When it is once begun, it must be continued uninterruptedly, day and night, until the close of the harvest. According to circumstances, the harvest may continue during three or four months. Before the olives are brought to the mill, they have been previously carefully spread out upon the floors of wall-ventilated storehouses, where they are allowed to remain for three days, if the wind is south, and for four or five days if the wind is north.

The first operation consists in crushing the olives between two granite stones turning against each other vertically. The mass is then transferred in rush baskets to an iron press, where it is sub-

jected to a very gentle pressure. This produces the so-called *virgin oil* (*huile vierge*), to which the Provence oils owe their great reputation. After this first pressing, the mass in the baskets is again comminuted or broken up, and again subjected to a somewhat stronger pressure in a lever press. The product constitutes the well-known commercial finest oil. The mass is now removed from the baskets, and again transferred to the mill where it is completely ground up, when it is once more packed into the baskets, and subjected to hydraulic pressure. During this latter operation, the effect of partial fermentation is utilized by pouring boiling water on the mass, in order to facilitate the separation of the oil. By this method of manipulation, not only a larger yield of oil is obtained, but, at the same time, the deterioration of the larger portion of the oil contained in the olives is prevented, because only the very last pressing is performed with the aid of heat. And the last product is even superior to that obtained from fermented olives, since the latter assume frequently a musty, putrid odor, which may contaminate the oil of the first pressing—a drawback which is obviated by using hot water. The aggregate annual importation of olive-oil into the United States has been computed to amount to 195,000 gallons, valued at \$153,000.

SALAD OIL OR SWEET OIL—Is the name applied to olive-oil after being purified by settling, filtering, washing and by various chemical operations. Of this salad oil, the importations are calculated in round numbers to be not less than 197,500 gallons, valued at \$356,000. Much of the table oil imported from France is adulterated with lard oil obtained from the United States, and reshipped as Oil of Lucca or Provence. It is also largely adulterated with the oil from the common peanut, which is grown in Northern Africa for that special purpose.

RAPE OIL—Is the name which commonly covers the product of several descriptions of seeds, such as rape, turnip and radish seed. The oil is of a clear brown color, sweet, with a mustard-like flavor; it is extensively used for dressing wool, and its illuminating power is excellent. It is often sold as olive-oil.

HEMP-SEED—Yields a green oil, and is extensively used in Holland in the manufacture of soft soap. In Russia it is used with different kinds of food, and is greatly liked by all classes.

OILS (COMMERCIAL).—**WHALE OR SPERM OIL** is obtained from the whale, the finest oil being taken from the reservoir behind the head. The oil of the sperm whale is of superior quality, and known to the trade as Sperm Oil.

TALLOW—Is a solid animal oil produced from the fat of cattle and sheep.

LARD OIL—Is a pale yellowish or nearly colorless liquid, ob-

tained from lard, etc., used chiefly as a lubricant, and also in the adulteration of olive-oil.

OLEOMARGARINE.—Sometimes called **ARTIFICIAL BUTTER** or **SUENE**, was first brought into existence by the French chemist, **Mége**. Its introduction into this country was bitterly opposed, both by the trade, the public, and the press generally throughout the Union. Laws have been passed in several States obliging those who sell it to brand all packages plainly as **Oleomargarine**. It is made of clean, fresh fat, because it would be almost impossible, and would entail considerable expense, to make a creditable article out of fats having the least taint. One establishment in New York city turns out more oleomargarine than the whole State of New York does of butter. Many factories now exist in all parts of the Union. A brief description of the composition of oleomargarine may be of interest: Butter contains the three fats—**Oleine**, **Palmitine** and **Stearine**. The same is true of suet, with the exception of less oleine, and by removing the excess of palatine and stearine, a mixed fat remains of the consistence of butter; this fat or oleomargarine is then poured into a churn, while still liquid, with about half its volume of fresh milk and nearly as much water. A little annatto is then added for coloring, and the whole is then churned, yielding a butter which is treated in the same way as ordinary butter.

OLIVES.—Olives, in different varieties, are grown in almost every country. Used as a pickle, they are effective in promoting digestion. The fruit is produced in great profusion; and, consequently, an olive tree increases in value proportionately with its age. It is chiefly from the covering of the fruit that the oil is obtained, and not from the seed, as is the general rule in the vegetable kingdom. Olive-oil is extensively used as an article of food in the countries where it is produced, and, to a smaller extent, in countries to which it is exported for medicinal and other uses. Olives gathered before they are quite ripe are pickled in various ways; they are, first of all, steeped in lime water, by which they are rendered much milder in taste. They are generally considered disagreeable at first, but soon become a relish, and in many parts of Southern Europe, are considered a valuable article of food—dried as well as pickled olives being used. The wood of the olive tree is of great value, being beautifully streaked, and capable of being highly polished. A *gum resin* is obtained from the old stems, which much resembles the storax; it has an odor like vanilla, and is often substituted for that flavor, and used as such in perfumes.

ONION.—A common garden vegetable, cultivated in great variety, and supplied to the markets nearly all the year round. The field onions are dug in August, and allowed to remain on the ground for

two or three weeks till they are thoroughly dried, and then packed away in a cool, dry place. Our early markets are supplied with ripe onions from the Bermuda Islands, and they are of excellent quality. The use of the onion is very general in most parts of the world as an adjunct in cookery, for soups, broths and the like. Many varieties are also palatable when cooked as vegetables by themselves. The strong smell and taste of onions is due to a pungent, volatile oil, rich in sulphur. Moderate-sized onions contain ninety-one per cent. of water. Grown in warm places, the onion is milder and sweeter than when grown in colder climates.

But a few years ago the principal part of the onions raised in this country for market were produced in Massachusetts. Five or ten years ago, a buyer, by spending a day or two in Essex county, in the fall of the year, could form a pretty correct opinion of the onion crop of the country, the probable price, and all the necessary facts to form a judgment of the future of the trade. Now this has all changed. Less onions are raised in Massachusetts than formerly, and the supply from various other points has increased greatly, while the facilities for cheap and rapid transportation have made impossible any very wide fluctuation in the general market.

Western farmers, in some sections, have paid increased attention to the onion crop. Rhode Island and Connecticut now raises large crops of onions, mostly of the red variety, for the New York market. Thus, while but a few years since Massachusetts supplied most of the Atlantic cities with onions, now the trade has been usurped by producers from other States. Boston market demands chiefly yellow onions; in New York red onions sell nearly as well as white or yellow; in Halifax and St. John, red onions have the preference. There is but little difference in the quality, and the choice is largely a matter of taste or fancy. Western farmers raise chiefly the yellow variety. But few western onions are shipped so far east as New England, except when prices are very high, since they come directly in competition with the Massachusetts supply; yet the western affect prices, and prevent any material advance in our home lots, besides restricting the sale of our onions.

The first new onions are received about May 1st from Bermuda. They formerly came packed in palm-leaf hampers, holding from one-half to one bushel each, but now they are freighted in wooden boxes, holding about one bushel each. The onions are large and flat, of a yellowish red color, though not of so deep a red as specimens of that variety grown in this country. Bermuda onions are sweet, and make excellent eating. Following this supply comes the Virginia crops of onions, shipped about June 15th. Few onions are exported from Boston, except to the British Provinces.

Onions, to keep well, must be well matured, with their tops properly dried off, and then stored in a cool place. Small white and

yellow onions, for pickling, are culled out of the regular growth, and sometimes sell as low as fifty cents to one dollar per barrel, although when really scarce they command nearly as much as the larger samples. Small onions should never be packed with the marketable lots.

ORANGE.—The Orange (fruit) is a large thick-rinded berry, separated into numerous divisions by membranous partitions, each containing a few seeds surrounded by large cells filled with juice. The leaves and flowers of the orange tree or shrub abound in aromatic oils, and the pulp of the fruit contains citric acid. All species of the orange are natives of tropical India, and by cultivation have become domesticated throughout the warmer portions of the globe. The sweet and bitter oranges are not distinguishable by any important botanical properties; the bitter fruit has a rougher rind, which is of a deep reddish color, and its juice is more sour and bitter; all parts of the bitter orange are more strongly aromatic than the corresponding parts in the sweet orange. The orange was introduced into Arabia and Syria, from which it found its way to Italy, Sicily and Spain, about the eleventh century; apparently the bitter orange was first introduced, and there is reason to believe that the sweet was not cultivated until the fifteenth century. The first importation of oranges into England was in 1290, in a cargo of assorted fruit from Spain. The time required after blossoming, for the orange to mature, varies in different climates; it is at least six months, and sometimes longer. In Italy the fruit that goes into commerce is picked as soon as mature and yet green, while that reserved for home-use hangs on the tree all winter, and is in its greatest perfection the following spring and summer. The Seville orange of commerce is a bitter variety, not common in our markets; its chief consumption is in making marmalade, and its rind is used as a tonic aromatic in several medicinal preparations; the peel is also candied and used in flavoring puddings and other cookery. The ordinary oranges of commerce are sub-varieties of the sweet orange, although they differ greatly in sweetness, and are distinguished by the names of the countries producing them, or the ports whence they are shipped:—the Messina, St. Michael's, Maltese and other oranges from the south of Europe, are medium-sized, smooth, rather thin-skinned, and somewhat flattened fruit, with an abundant but not very sweet juice; these are imported in boxes, each orange being wrapped in soft paper. The St. Michael's orange is seedless, and the blood orange of Malta has a crimson pulp. The Mandarin or noble orange which originated in China, is one of the most highly esteemed of all the varieties, and when occasionally offered in our markets it brings the highest price; it is a small, flattened, smooth fruit, of a rich color; the rind, when the fruit is fully ripe, separates spontaneously from the pulp, which is exceeding rich and agreeable. In China it is held in high regard, and is used as

presents to the mandarins; it was introduced into Europe early in the present century, and is now cultivated in Algeria, the Azores, Brazil and other countries.

The Havana oranges, which also come from other parts of the West Indies, are large, often rough-skinned, and very sweet; as they are imported in bulk, they are packed in a very green state, and are rarely seen in the market in their best condition. A similar orange from Florida, having a shorter voyage and gathered when more nearly ripe, is generally of a better quality. The navel orange of Brazil, rarely offered for sale, is of superior excellence; it is usually seedless, very sweet, and has often a small protuberance at the upper end, from which it receives its name. The myrtle-leaved orange, which can hardly be regarded as a variety of commerce, is sold by the florists for a table decoration. The chief use of the orange is as a dessert fruit, and to afford a refreshing beverage in fevers. The flowers of the orange, on account of their charming fragrance and pure whiteness, are considered essential to the bridal wreath, and the trees are cultivated by florists solely for their flowers. By distillation with water, orange flowers afford an essential oil, and the water from which this is separated is sold as orange-flower water, which is used in pharmacy to flavor mixtures. The oil of orange peel, or oil of orange, as it is known in commerce, is contained in the rind of the fruit; though a volatile oil, it is obtained by pressure. The methods of cultivating the orange differ but little. In this country the orange is cultivated as an object of profit in Florida, Louisiana and Southern California; Texas and some other States produce a small number for home consumption. In various parts of Florida there are immense groves of wild oranges. In Florida there are three methods of establishing an orange grove—to clear up a wild grove, removing all trees not needed, and budding with sweet fruit those that remain; to take up young wild trees and set them in prepared ground, and then bud them; and to raise stocks from seed, bud them in nursery rows, and when of sufficient size set them in the plantation. The Jesuit missionaries early introduced the orange into the gardens of the mission stations of Southern California. The American settlers soon extended the culture of oranges, and it is now one of the principal industries of Los Angeles and its vicinity. In England, orange culture became popular in the seventeenth century. The imports of oranges into the United States from the Mediterranean and West India ports are very large. Every grocer keeps in stock this luscious fruit.

OYSTER.—The oyster is a marine acephalous mollusk of the genus *ostrea*. Oysters are found in almost all seas, usually in from two to six fathoms of water, and never at a great distance from the shore. They are especially fond of tranquil waters, or the gulfs formed by the mouths of great rivers. They cannot live in fresh water, but some species remain dry during the greater part of every

tide. The tree oysters, which attach themselves to mangrove and other bushes in the tropics, enclose within the shells a sufficient quantity to keep up the respiratory currents. Oysters have been highly esteemed as food from the times of the Greeks and Romans to the present day; they are of easy digestion, but not very nutritious, and act rather as a provocative to appetite than as a satisfying food. They are eaten all the year round, except in "the months without the R" (May, June, July and August), which is the spawning season; and they are good even then. The common oyster of Europe, abundant on the coasts of Great Britain and France, occurs in large banks or beds, sometimes extending for miles, usually on rocky bottoms; from about the middle of May to the middle of August, they are dredged from the bottom by a kind of iron rake, drawn by a boat under full sail, several hundreds being taken at a single haul; these are transferred to artificial beds or parks, where they are preserved for sale, continually growing in size and improving in flavor. The growth of the oyster is slow, it being only as large as a half dollar at the end of four to six months, and twice that size at the end of a year. The west coast of Scotland and Hebrides have the best oysters of the British coasts, and here in sheltered bays they acquire the green color so esteemed by the epicure, and supposed to be due to *confervæ*, and similar colored growths in the breeding places; other English beds extend from Gravesend, on the Thames, along the Kent coast, and in the estuaries of the Colne and other rivers along the Essex coast. The British beds are kept up by careful culture and by the introduction of broods from all quarters; since 1872 several varieties of American oysters have been introduced. Not many years ago the beds of France were nearly exhausted, but have since been restocked, and now the culture is yearly extending along the entire Atlantic and Mediterranean coasts of that country. The Danish coast is well supplied with beds. The Neapolitan Lake Fusaro, is the great oyster park of Italy. The species most esteemed in America are the Virginian oyster (*Virginiana*) and the northern oyster (*borealis*). In the Virginian oyster the shell is elongated and narrow, and the backs pointed and not much curved; it often measures twelve to fifteen inches in length, but is seldom more than three inches in length. This is the common oyster from Chesapeake Bay southward; it is sometimes found in the vicinity of Boston, and also at the mouth of the river St. Lawrence; it multiplies so rapidly on some of the low shores of the southern coast as to impede navigation and to change the course of tidal currents. In the northern oyster the shell is more rounded and curved; the surface is very irregular, with the margins more or less scalloped; a common size is five or six inches long, but it grows to the length of a foot, and to a width of six inches. This is the common New York oyster, said also formerly to have been very abundant in Massachusetts Bay.

Boston market is supplied principally from artificial beds derived from the Virginia and New York oysters; large quantities of the Providence River oysters are also consumed in Boston, they being considered the best and commanding a high price. The flats in the vicinity of our maritime cities are generally thickly beset with poles indicating the localities of the oyster beds. The principal sources of supply are the Chesapeake Bay, the coast of New Jersey, Long Island Sound, the Providence River and Wareham, Mass. Formerly the northern beds were almost wholly kept up by the restocking them with bed oysters from Chesapeake Bay and from the Hudson River, but of late years the spat is secured at spawning time, and new ground is brought under cultivation, until the area of the oyster beds in Long Island Sound is now computed by miles rather than acres. Wareham oysters principally find a market in the city of Boston, at which place they bring the highest market price. These oysters have a peculiar flavor which is not found in oysters from any other place. The oysters that grow on the grants in the Marion River, a few miles from Wareham, are not considered by epicureans so finely flavored as those grown on the Wareham grants, and it is generally known that they do not bring so high a price in the market. The oysters raised near Buzzard's Bay, Cohasset Narrows, are the same in flavor as those from the river grants in Wareham, and bring about the same price, although the meat is not so fat and white in appearance. It is, however, just as palatable and as anxiously sought after. The oyster beds of the Chesapeake Bay cover an area of over three thousand square miles, and the annual yield of oysters from these alone is estimated at upwards of thirty million bushels, valued at \$15,000,000. The total oyster trade from Maine to California has been valued at \$60,000,000 annually.

The oysters, after being taken from their beds, are for the most part carried to large oyster houses, where several hundred people are employed in opening them and packing them for the markets. They are put up either in cans or in bulk, and are of several grades, the best being known as *selects*; following which come *standards* and various lower grades.

Oysters may be eaten raw (when they are easily and rapidly digested), or cooked in a dozen different ways—roasted, stewed, broiled, fried, scoloped, etc., and in whatever way they are eaten, will be found a delicate, nourishing and delicious dish, a fit article of diet for the invalid or the healthy, for the child or the adult.

OYSTER PLANT.—The oyster plant is a vegetable, the roots of which are boiled or stewed like carrots, or half-boiled, or grated fine, made into small flat balls, dipped in batter and fried like oysters, which they strongly resemble. The young flower-stalks, if cut in the spring of the second year and dressed like asparagus, resemble it in taste.

PACKAGES (EMPTY).—Empty packages are returnable by many freight lines without charge. In reference to oil and liquor packages, we would remark that retail grocers and others, who retail coal-oil or burning oils of any kind, and do not destroy the brand-marks of the inspector, are liable to a fine of \$300 for each and every brand or package not destroyed or defaced; and retailers of liquors are under a similar penalty in like cases. This duty is often omitted through carelessness, and instances are known of a dozen dealers in a single town incurring penalties of from \$50 to \$300 each, by the accidental visit of a government detective happening to look in on the town.

PADDY.—This is a name commonly applied to rice before the hull has been beaten off. This is the form in which it is brought into the southern cities, where large mills are erected, whose business is confined to rice cleaning. On the plantations the hulls are beaten off the paddy by pounding and rubbing it in a mortar with a large wooden pestle, and this primitive operation involves great labor. A hand-mill to clean rice would be worth millions to its inventor, but thousands of attempts at inventing one, have as yet, proved unsuccessful.

PAILS.—Wooden vessels, of different shapes and sizes, now made by machinery, and varying in price from the best brass-bound cedar stock to the cheapest two-hoop soft pine article. They should be kept out of the sun, as they are liable to slacken (especially the cheaper grades) and fall apart.

PALM-OIL.—Palm-Oil is made from the fruit of the palm-tree, universally admitted to be one of the best materials for soap making. A soap made purely of palm-oil, with barely enough alkali to produce saponification, is very superior for the toilet use and the bath, for shaving, and the teeth. Very little of the soap that is manufactured, advertised and sold under the title of Palm-soap, is really genuine. It is mainly imported from Africa, and especially from Liberia.

PAPER.—Paper, of all kinds, especially that used by the grocer, such as straw wrapping-paper, is sold by the number of sheets, and is most frequently short of the professed quantity. An excellent water-proof paper has lately appeared in the market, specially made for wrapping of butter, lard or any greasy or wet material. It is made of thin, transparent paper, dipped in a solution of some kind of wax or paraffine. Straw paper should be kept in the cellar, or where it will not dry out, as it becomes very brittle when too dry. Wrapping-paper is generally made from straw, flax, hemp, manilla and rags. It is packed for market in bundles, and sold either by the

ream or by the pound. Paper sacks and bags are manufactured by machinery, and immense quantities are used by the retail trade.

Two kinds of wood pulp are used in the manufacture of printing paper, respectively designated as "mechanical pulp" and "chemical pulp." Any ordinary wood which is fibrous, free from knots and decay, and is easily disintegrated, is suitable for making chemical pulp, though the whiter the wood and the less acid it contains the better. The wood is cut into small pieces, diagonally with the grain, by revolving knives, just as logwood is cut for dyeing purposes. It is then treated with a superheated bath of caustic alkali, then bleached, and afterward subjected to the same processes as are clean rags. In making mechanical pulp, no chemicals are used—not even lime. Any ordinary white wood is suitable for the purpose, but poplar is preferred, although the dark heart is not used. Water power is used, and it is estimated that one cord of wood, with two stones or emery wheels, and thirty-horse power, will produce the equivalent of from one thousand to twelve hundred pounds of dry pulp per day, with the labor of three men—one to attend to barking and sawing the wood, one to attend the stones, and one to look after the pulp. The wood is used soon after it is cut, or, if seasoned, it must be steamed. The sticks are pressed endwise against the stones or wheels, and with a bountiful supply of water they are literally ground to pulp, thus destroying the fibre. Unlike the chemically-prepared article, this pulp is not allowed to dry before being used. The damp sheets are folded, packed in bundles and sold, with an allowance of forty per cent. for the moisture. To manufacture paper from it, the addition of some kind of fibre is essential—say from twenty to eighty per cent., according to the kind of paper required. Good printing paper is made from the chemical pulp without the addition of any other fibre, and the use of it is desirable in making even the best book paper. Some excellent book paper is made of forty per cent. of this pulp, and the printing paper now being used by the government is made wholly of white spruce pulp. Machinery of the capacity for making, say seven thousand pounds of rag paper per day, will turn out from twelve thousand to thirteen thousand pounds per day, if forty to fifty per cent. of pulp is used. At the present time, chemical pulp is almost as expensive as rags in manufacturing ordinary printing paper.

To the various raw materials already employed in manufacturing paper, such as rags, esparto, straw and wood, all of which are expensive, a new and cheaper one, namely, white moss, will shortly be added. This moss is found in immense quantities in Norway and Sweden, but it is not the living plant as it grows in the fields which is used for making paper, but the remains of this kind of moss, which has gradually accumulated in the woods. The mouldering which the moss has gradually undergone, constitutes a preparation for the paper manufacture made by nature herself. Near the place in Sweden

where the first factory is now building, examination has shown that many millions of pounds of this raw material are to be found, a sufficient quantity to support a large manufactory for a number of years. Paper of different thicknesses and pasteboard, made of the white moss, are shown, the latter even in sheets three-quarters of an inch thick. It is harder than wood, and can easily be painted and polished. This manufacture is well suited for taking the place of wood for many purposes. It has all the good qualities, but none of the defects of wood, as it neither cracks nor warps. The pasteboard can, consequently, be used for door and window frames, for architectural ornaments or all kinds of furniture. A company, founded on shares, has been formed for building factories in Sweden, as well as in Norway.

PAPER BAGS.—There are many different varieties of bags in the market, from the old-fashioned hand-made bags to the square-bottom, and the machine-made square-bottom. They are made in all qualities, those most desirable being made from tough manilla paper. Formerly it was the practice for grocers' clerks, in their leisure hours, to cut out and paste together strips of paper for bags; now they are all purchased of paper dealers, ready made, in quantities to suit.

PARAFFINE.—Paraffine is a white waxy substance, free from taste or smell, which will not burn except in conjunction with a wick, when it gives a bright, smokeless flame. It is these qualifications which give such advantages to candles made from it. Large quantities of paraffine are used for the apparently trivial and unimportant purpose of manufacturing *chewing-gum*. The extent to which this single article is sold by wholesale confectioners must be simply enormous, *one* manufacturer of chewing gum alone using about seventy thousand pounds of paraffine in a single year. Confectioners also use it considerably to impart to certain of their confections a high gloss or lustre. Its most important application is in the manufacture of *candles*. It is also used very considerably in *waterproofing* fabrics and leather for shoes. Dress silks are frequently treated with it, being thus protected from stains, if liquids chance to be spilled upon them. It is employed to a considerable extent in the manufacture of electrical apparatus, being valuable for its high resistance to the passage of the electric current.

PARIS GREEN.—Paris Green is a chemical compound very much used in coloring paint, paper, etc., especially wall paper. In paint it produces one of the finest green colors possible to be obtained. Its use on wall paper has been much condemned, as children are often poisoned by chewing such paper; and, not unfrequently, people are poisoned by inhaling the minute particles which become separated from the paper so colored, and float about the room. Since the ap-

pearance of the Colorado potato beetle, Paris Green has become familiarly known and very generally used throughout the entire country, for the destruction of this insect pest. For this purpose it is mixed in the proportion of one part of Paris green to twenty, thirty or even more, of some dry substance, such as gypsum or flour; or two or three spoonfuls are stirred into a pail of water, and the vines are then sprinkled with this dry or wet mixture. Thus employed, it is very effective in destroying the beetle, and is the only true remedy where the insect appears in great numbers. Strong fears were entertained, when it was first used in this way, that ill effects would result from the poison being absorbed by the potato, or that wells in the vicinity would become poisoned by it. It has been conclusively proved, however, that it is soon rendered insoluble and harmless by combining with other elements found in the soil. Its long-continued use throughout the western United States, without a single evil result being recorded, is a sufficient answer from experience to any fears that may be entertained. It is of course necessary that great care be exercised in handling Paris green, as many accidents have resulted from carelessness in leaving it where it might be gotten at by children and animals. A preparation of Paris green, to be used as an exterminator, is prepared and sold.

PARSLEY.—Parsley is a herb cultivated in gardens, and used largely for ornamenting meats and flavoring stews, soups and various dishes in the domestic economy. It is very nutritious and stimulating. The bruised leaves are sometimes used for poultices. It comes into use during the fall, winter and spring.

PARSNIP.—This plant is universally cultivated for its root, which is boiled and eaten with various boiled meats. It is excellent food for cattle in the winter. The best varieties are rich and marrow-like. A number of varieties are in cultivation, but they closely resemble each other, and their peculiarities are doubtless determined by the soil on which they are raised.

PASTES.—Pastes are forms of prepared flour similar to Macaroni, Vermicelli, etc., but not of the same character. They are made in many pretty forms, such as letters, animals, stars and fancy shapes, and are generally used in soups. In confectionery pastes are stiff-forms of candy—such as jujube paste, fig paste, etc. Fish pastes are prepared from anchovies, bloaters, etc. Furniture paste or cream is a compound of beeswax and turpentine.

PEA.—The Pea is one of our most valuable table vegetables, its nutritious character making it very desirable. When purchased in the pod they should be kept in a dry, cool place, and never allowed to get damp or warm. They are very extensively canned, both in this country and in France, and very much in quality, many of the

cheaper packings being dry peas soaked in water and canned, a practice often resorted to when the market has advanced to tempting figures. They are eaten both in the green and dry state. The canning of green peas has become quite a large industry, and is always found on grocers' shelves. The native country of the pea is unknown. The common garden pea are of two kinds, the round, smooth pea, and the wrinkled or marrow-pea, which is much larger than the round pea. Probably no other vegetable differs more in quality than this, owing to variety, degree of maturity, and length of time since gathering. The wrinkled varieties are much sweeter and better flavored than the round, but on account of the great earliness of the round sort, the first peas of the season are always of that kind. An experienced person can always tell by the feel of the pods when they are in condition to pick for the table; if too young the seeds are very small in proportion to the pod, while if too aged there is a want of firmness and flavor.

PEACHES.—The peach is cultivated to a very great extent in New Jersey, Delaware, Maryland and the South, the principal markets being Philadelphia, Boston, Baltimore and New York. They are sold in baskets, which vary very materially, there being no regulation size, and it is therefore necessary for the buyer to exercise care in the selection in order to get full value. The main distinctions in peaches are the yellow and white varieties, and those with clingstones and freestones. Canned peaches vary in size and quality; they are divided into two distinct grades—table peaches and pie peaches. Peaches are also evaporated and sold by weight, but as they lose some of the flavor in the process, they are not very popular. Peaches are imported from Bermuda at the end of April, when they realize fancy prices, and come from the South during June, and from New Jersey about July 20th. The season is at its height in the middle of August, and ends in September.

Peach trees and fruit are subject to a very serious disease known as the *yellow*s, which, in many sections of the country, threatens to entirely prevent the growing of the fruit. The disease also renders unfit for use many of the peaches which are now sold in our markets. The symptoms of this disease are in the tree, a production of numerous wire-like shoots from the sides of the limbs, and a yellow color of the leaves; in the fruit, first, premature ripening, the fruit being ripe from two to four weeks before its proper time; second, the presence of patches and spots of a deep purple color upon the peach, no matter what its proper tint; third, a deeper color, watery condition, and insipid taste of the flesh. The cause of the disease is not well understood. Many have been led to believe that it was caused by an attack of fungoid parasites, whilst others have supposed that it was due to overbearing and poor cultivation. It is undoubtedly true that trees which have become weakened by such means, are more liable to

the attacks of the disease than strong and vigorous ones. It is also a question of dispute whether the disease is contagious or not, although it is well known that if the disease makes its appearance in an orchard, the whole will soon be destroyed unless the diseased trees be at once removed. The *yellow*s are known only in the northern United States—the southern United States and Europe having never been troubled by the disease. No effective remedy is known.

PEACH BRANDY—Is made in considerable quantities by distilling ripe peaches. Its consumption is rapidly diminishing.

PEACH WATER—Obtained by bruising the leaves into a pulp with water, and distilling; is used for flavoring, and in medicine as a sedative and worm-remedy.

PEANUTS.—The tree is a native of South America. It is cultivated in the southern United States, Europe, Asia and Africa. Peanuts furnish a very important article of food among many of the negro tribes of Africa, and they are also grown in large quantities in that country for the manufacture of an *essential oil*, which is largely used in the adulteration of olive-oil; and, in very many instances, it is sold as genuine olive-oil, without the admixture of an ounce of the real article. An average crop of peanuts is fifty or sixty bushels to the acre. Hand-shelled nuts are largely used for eating, and by confectioners, both in Europe and in this country; but those which are machine-shelled are only fit for oil-crushing and cattle-feeding purposes. The oil-cake of the nuts, when pure, is highly esteemed for its fattening properties—horses, cattle, pigs and poultry being very fond of the peanut in its natural state. A heaped imperial bushel of the nuts weighs from twenty-five to thirty-two pounds. Divested of their shell, the kernels furnish as much as forty-five to fifty per cent. of oil. Besides the great value of its seeds for oil, this plant is also a good fodder herb, since it is very productive and yields a quick return. The yield on light soils is fifty bushels per acre; in some other parts of the United States, it is from eighty to one hundred and twenty bushels an acre. Previous to 1860, the product in this country did not exceed 150,000 bushels; at the present time, the supply for home consumption amounts to 1,500,000 bushels annually. The wasted seeds are sometimes used as a substitute for chocolate, since they abound in starch as well as oil, and a large proportion of albuminous matter. In Brazil the seeds are parched for food, and economists urge the more extended use of *peanut meal* as a food, claiming that the residue from the peanut, even after the oil has been expressed, far exceeds the ordinary green pea or the lentil in its possession of flesh-forming elements, its general nutrition, and the fat and phosphoric acid they contain. Although in the raw state it has a somewhat harsh odor, this flavor entirely passes off in cooking. The peanut is held in high estimation throughout the United States, by youth

and adults, whether roasted, raw or imbedded in candy, as the flourishing sale-stands at almost every street corner will testify. Virginia, Tennessee and North Carolina, are the great peanut-producing States. Of late peanut flour has been quite extensively manufactured.

PEANUT OIL.—This oil is largely used for domestic and culinary purposes; for mixture with olive-oil, and for cloth-dressing, though its chief use in Europe is for the manufacture of soap and for lubricating machinery. As a lamp oil it burns longer than olive-oil, though its illuminating power is less. A bushel of peanuts will yield a gallon when expressed cold; while, if heat is employed, a larger quantity will be obtained, though its quality will be considerably inferior. Peanut oil has the advantage over other vegetable oils of being able to be kept for a much longer time without becoming rancid. In Brazil the oil is used for cooking, medicinally for rheumatic affections, and for lighting.

PECAN NUTS.—A kind of Hickory nut, generally grown in the western and southern parts of the United States. They are agreeable in flavor, and arrive about December. The nuts are of oblong shape, and have a smooth, thin shell, and easily separated kernel. They are seasonable until April.

PEARS.—Few fruits have been as carefully cultivated and improved as the Pear. It appears in countless varieties in our markets, varying in size from the little brown Seckel pear to the large Bartlett. The different varieties ripen at various seasons, and the consumption of the fruit extends over much the same time as that of the apple. Very fine pears are now shipped in crates from California, and find ready sale in our eastern cities. Canned pears are a staple article in every retail grocer's stock.

PEPPER.—The common kinds of Pepper, black and white, are in reality one and the same, the only difference being in the preparation which it undergoes. Black pepper is simply the dried fruit of the tree, and though not so agreeable to the eye as white, possesses more of the essential flavor of the spice. White pepper is prepared by putting the pods in water and removing the black or outer covering; sometimes it is bleached afterward, to make its appearance better, consequently the degrees in quality are very numerous. Long pepper is an entirely distinct species, being used for pickling. It is more pungent than either black or white pepper. Jamaica pepper or Pimento, is used in the manufacture of allspice, and is larger than black pepper. Cayenne pepper, sometimes termed "Chillies," is the powder of what is commonly called Cayenne pods, produced by grinding; when pure is the most pungent of all. It enters largely into the composition of botanical medicines. Pepper is used as a condiment, and is a warm, carminative stimulant; it strengthens the stom-

ach and assists digestion. In the tropics the inhabitants use it with all their food, drink it in decoction, and make fermented liquors from it. The ground pepper of our stores is largely adulterated with mustard, ground rice, wheat, etc. Pepper dust, the refuse and sweepings of warerooms, is used to mix with the ground article. The annual consumption of pepper in the United States is not less than \$1,100,000 in value.

PEPPERMINT.—Peppermint is an essential oil distilled from the mint plant. New York and Michigan produce over two-thirds of the peppermint oil of the United States. It is used for flavoring and in medicine.

PERFUMED LYE—Is a superior description of lye or alkali manufacture, in a fine powder, perfumed so that it makes scented soap. It is covered by a patent, and is now manufactured by the Pennsylvania Salt Company.

PICKLES.—This term, as known to the trade, refers to all the numerous kinds of vegetables preserved in vinegar and flavored with various spices—such as Mixed Pickles, Gherkins, Cauliflowers, Onions, Cabbage, Cucumbers, Green Beans, Mushrooms, Capers, Olives, Melons, Pears, Limes, Peaches, Unripe Nuts, Indian Pickles, Piccalilli, Chow-chow, etc. Large quantities of pickles are imported, but most of our supplies are obtained from this country. Chow-chow and Piccalilli are prepared by the mixture of a quantity of the flour of mustard with the vinegar. They are generally prepared by being allowed to steep some time in salt water, and then parboiled and transferred into vinegar, along with salt and various spices, such as ginger, pepper, allspice, mustard, pepper-pods, etc. East India pickles are flavored with curry powder, mixed with garlic and mustard. The vinegar is sometimes put on the article in a cold state, or it may be boiling. Immense quantities of pickles are used, especially on ship-board, and they form an almost necessary article of diet. In order to render them more attractive, they are often colored by the addition of sulphate of copper, or by boiling the vinegar in copper vessels. Most of the vinegar used in pickling contains sulphuric acid, and this, acting on the copper of the kettle, forms a sulphate of copper, a deadly poison. Pickles are now put up *colored* and *uncolored*, so that there is no necessity for using the *colored* article. One of the noticeable differences of flavor between American and English pickles is caused by the general use of malt vinegar in Great Britain. The greening of pickles is a very delicate operation, and novices at the business turn out a very dark, unsightly article. The admixture of mustard makes them look muddy, except when very expertly done.

To TEST PICKLES.—The use of copper to brighten pickles is highly injurious to health, and its presence can easily be detected by

putting a steel knitting or packing needle into a jar of pickles, when, if much copper is present, the needle will soon become coated with it. If diluted ammonia is put into a bottle containing a doubtful pickle, the slightest trace of copper will cause the ammonia water to turn blue.

PIPES.—This necessary article to smokers is manufactured in this country as well as imported, and present an almost endless variety. The common clay article is necessarily the first, from its cheapness and general use. The next in order are those manufactured from briar-root, cherry and other woods, and the last and most expensive, are those made from *meerschauum*, a peculiar mineral deposited in the soil in various parts of Europe and Asia.

By far the choicest and finest clay pipes come from France. They readily absorb the oil of the tobacco, and color quickly—a valuable quality in the eyes of tobacco-smokers. The *T. D.* pipes come from Glasgow, Scotland, are sold wholesale at from a half cent to one cent a-piece, and retail from one to two cents. There are several clay-pipe factories in Philadelphia, Baltimore and Canada. The *red clay* pipes are chiefly made in Providence, Rhode Island. The *Woodstock* clay pipe is a great favorite, especially in the rural districts. Americans object to the use of porcelain pipe bowls, so popular in Holland and Germany, from the fact that they are not porous, and become unpleasantly hot in smoking.

PINT.—A measure holding one-eighth of a gallon. [See Weights and Measures.]

PLACARDS.—A very striking method of advertising, which, if judiciously carried out, will result in a good return for money invested. Grocers need not make their own placards, as neat and tasty placards, excellently designed, can be had at very low prices from show-card printers and artists. Do not disfigure your store with clumsy-looking placards; have good ones or none.

PLUMS.—Among the best varieties of the cultivated plums to be found in the United States, are the Washington, Duane's Purple, Green Gage, Yellow Egg, Huling's Superb, Bleecker's Gage, Jefferson, McLaughlin, Prince, Chickasaw, Beach and Blackthorn. The American wild plum grows wild in thickets, along fence rows and banks of streams, from Canada to Texas. The fruit, in its wild state, is red, rather small and unpleasant flavor, but has been much improved both in flavor and condition by cultivation, and although of a pleasant flavor when fully ripe, is not adapted for cooking purposes. The garden plums, when ripe, are among the most delicious of our fruits. Green Gages ripen about August 15th, and last till October. Some other varieties ripen earlier. *French plums* are imported largely from Europe, and are known by various brands. They

are prepared for the market as soon as gathered, by being dried by the action of the sun's rays until they become quite soft. They are then collected and put in a heated oven, and further dried. When sufficiently dried, they are made round by the stone being turned round and the fruit pressed at the ends, and are then packed in the desired form for the market. Prunes are prepared in a similar manner, but not with such care, and form a lower grade of fruit. [See Prunes.]

PLUM PUDDING.—This popular and world-famed dish has now become more popular than ever in its comparatively novel form—that of an article in canned goods. It is the most convenient and toothsome dessert dish that the grocer can offer to puzzled housekeepers. Large quantities of our American Plum Puddings, in this form, are actually sent to England, thus supplying John Bull with his national luxury in a vastly improved shape. They come in one pound, two pound, three pound and four pound cans.

POLARISCOPE.—This is an instrument to determine the amount of saccharine matter in sugars; or, in other words, to ascertain the amount of adulteration in the samples presented, by testing the variations with which they polarize light. It may be considered the best way of obtaining the comparative value of raw sugars, and was for a considerable time in use at the New York Custom House, but was resisted by the sugar importers of that city as illegal, and subsequently withdrawn. There is no doubt, however, if Congress were to enact a law adopting the polariscope as a test, that it would furnish the most reliable method of determining the intrinsic value of sugar.

POLENTA.—Forms the chief food of many Italian peasants, and is a flour ground from chestnuts. It is highly nutritious, and is cooked in the same manner as our American corn-meal cakes or pone.

POLLOCK.—An Atlantic fish, very plentiful, and usually salted and sold as cod-fish, to which family they belong. They are inferior to the genuine cod.

PORTER.—A description of malt liquor, made of high-dried malt, which derives its dark color from the burnt malt or burnt sugar. It is said to be fattening in its qualities.

POP-CORN.—Pop-corn is made from any kind of corn or maize, especially those descriptions of grain which are small and compact, and which are used for popping. The corn, which has been burnt by heat, so that it exhibits the inner kernel, is sometimes eaten with salt and milk, and still more frequently sugared and eaten as a confection. The articles known as Snowdrift and Snowflake are

simply ground Pop-corn, and come in half-pound boxes, and are eaten as a breakfast or supper dish, with milk and sugar, or without sweetening.

PORK AND ITS PRODUCTS.—The importance of the trade in Pork and Lard is so great that a somewhat detailed description of this essential product should be given, with the official regulations enforced in the curing, packing and branding of the article. The great pork-packing points in this country are the cities of Chicago and Cincinnati.

After the animals have been killed and cooled off, they are ready to be cut up; they are carried from the cooling room to the cutting room, each hog being weighed as he is brought up, and a record kept of the weight. Having been rolled on the block, one blow from an immense cleaver severs the head from the body; another blow severs the saddle or hind parts containing the hams; another lays it open on the back; another one for each leg. The leaf lard being already loosened, is now stripped from the carcass. The remainder of the hog is then cut up into the various kinds of meat it is most suited for, the whole operation taking but a few moments of time—two good men having dressed two thousand beasts in less than eight hours. A day's work is ordinarily from eleven hundred to twelve hundred head.

The trimmings and the fat are now collected and placed in huge tanks, where it is to be rendered into *lard*. When the tanks are filled they are closed, and the entire mass is subjected to a jet of steam from the boilers, of a pressure of fifteen pounds per inch. By this process every particle of lard is set free. One of the tanks is reserved for making *white grease*, in which the paunches, intestines, etc., and the refuse from the slaughter houses, are placed and subjected to the same steaming process. Another tank is used for trying out dead hogs, which have been killed by accident, into which they are dumped whole. The product of this is known as *yellow grease*. After the mass in the several lard tanks has been sufficiently treated by the steam process, the lard is drawn off by means of faucets, into an immense open iron tank, called a clarifier, where all the refuse matters which rise to the top are skimmed off, and the sediment or heavier matters are withdrawn. The remaining lard is then run into coolers and thence into barrels, where it is weighed and branded *pure lard*. After the lard has been drawn from the tanks, a large manhole is opened at the bottom, and the whole mass is drawn out in large wooden tanks set even with the floor. The mass is again subjected to a boiling heat, and all the remaining lard is set free and runs to the surface. The water is then drawn off, and the solid matters remaining are used in the preparation of manure.

The curing room occupies the lower floor. The first process is

to dress all the meats, except the shoulders, with a solution of saltpetre, which is applied with a swab to the green meat, and while wet with it, is covered and rubbed with salt, and then packed in tiers to cure. In three weeks it is all handled over and treated to a second dressing of salt, and again in seven days more, when it is pronounced cured. After a few days the English meats (that is, the meats intended for export), are carefully scraped and smoothed off, preparatory to packing. These meats are usually packed in square boxes containing five hundred pounds. The barrel meat is packed in the second story. Enough pieces of the various kinds are weighed out for a barrel; it should be two hundred pounds, but one hundred and ninety or one hundred and ninety-six pounds is generally put in, as it is found the pork increases in weight by the absorption of brine. It is then packed, a layer of meat, then salt, until filled; the whole are then headed and branded. Each barrel is then filled with brine, and allowed to stand with a small bung open a short time. More brine is added, if necessary, and the bung closed. Most of the hams are cured and smoked. The curing process varies with different houses, some applying the saltpetre and salt and packing in bulk to cure, while others prepare a pickle (sweet pickle) by the use of three ounces of saltpetre and one to two quarts of molasses for a brine—the brine being made to show 30° of saltiness by the meter. After the meat has lain a sufficient time in the pickle, it is taken out and packed in bulk for curing, or hung up and allowed to remain for several weeks; after this the hams may be smoked if so desired. For summer shipment the hams are wrapped in paper and canvassed; the canvass being generally covered with a preparation of chrome yellow; and in its use great care should be taken, as it is a deadly poison. Hams shipped to England are seldom smoked, but are shipped in pickle.

The various terms applied to Packed Pork may be thus explained:—

CLEAR PORK—Is pork obtained from the sides of extra-heavy, well-fatted hogs, the backbone and half the rib-bone being taken out.

MESS PORK—Is made of the sides of the thickest and fattest hogs, cut into strips six or seven inches wide, running from back to belly.

ORDINARY MESS PORK—Is cut in the same manner, but from lighter hogs, ranging from one hundred and seventy to two hundred pounds.

PRIME MESS PORK—Is cut from a still lighter class, ranging from one hundred to one hundred and fifty pounds, the shoulder being included. It is generally cut into four-pound pieces, so that fifty should make a barrel.

In the cutting of meats for export, the following system is pursued :—

SHORT RIBBED MIDDLES.—This is the side of the medium-weight hog (shoulder and ham off), the bone removed, and the ribs cracked through the middle.

SHORT CLEAR.—Is the same part cut from the best hogs with backbone and all the ribs taken out.

LONG CLEAR.—Is the side, including the shoulder, with all the bones removed.

LONG RIB.—Is the same as above, with the shoulder and backbone out ; ribs left in.

CUMBERLANDS.—Is the shoulder and side together, with the backbone out, the shank cut short.

STRETFORDS.—Sides and shoulders together, the shoulder and bone taken out, shank left in ; backbone and upper half of rib removed.

LONG ENGLISH HAMS.—Is the whole hipbone being left in, and the ham left the full size.

PICKLED HAMS AND SHOULDERS.—The number of pieces and green weight meat must be branded on the head of each tierce.

Long, short, clear and back, are packed in the months of June, July, August and September by some houses, two hundred pounds in the barrel, and will not gain in weight unless put in the ice-house, and then goes back when exposed to a warm temperature ; one hundred and eighty pounds, packed in cool weather, when thoroughly salted, will weigh out two hundred pounds, and often overrun from five to ten pounds. One hundred and eighty pounds is the quantity of fresh pork put in barrels in cool weather by all the leading packers. It is known that some pack one hundred and ninety pounds to the barrel, after the pork has been salted on the premises of the packer—hence there is no gain and the retailer is the loser. It is best to buy of the principal packers whose reputations are fixed.

BACON.—Made from the shoulders and ribs, and known as *rib*, *clear rib*, having the backbone sawed out, and *clear* being free from both backbone and ribs.

LARD OIL.—Is made by placing the lard in heavy duck bagging, and subjecting it to heavy pressure ; the residuum stearine being largely used in the manufacture of candles.

To recapitulate the manufactured products we have from the hog ; they comprise—

- 1.—No. 1 Lard ; 2.—Common Lard or grease ; 3.—Inferior

Grease; 4.—Lard Oil; 5.—Red Oil; 6.—Oleine Oil; 7.—Glycerine; 8.—Stearine.

PETROLEUM OR COAL OIL.—Petroleum is found in many parts of the world, and is believed to be a result from the decomposition of huge masses of antediluvian fish, in the same way that coal was produced by the decomposition of trees and plants, or to be the actual distillation from coal when the rocks were hot. It is found in great abundance in Pennsylvania. The Indians used it as a liniment, and it was sold as *Seneca* or *Rock oil* for many years before the processes for refining it were devised. In its crude state it was not as economical as many of the vegetable or animal oils. In 1855 the perfection of refining began to render it truly valuable. In the process of refining the crude oil, various products are secured, such as naphtha, benzine, gasoline, paraffine oil and wax, and the refined kerosene or illuminating oil. As petroleum is highly inflammable, laws have been passed in different States which restrict its sale for illuminating purposes to certain degrees of "flash" or fire-test. It is safe at 130°, and is said to lose some of its qualities when refined to a higher grade. The Standard Oil Company has monopolized the oil business of the United States for several years, and dictates prices and terms very generally. Dealers should look well to the gauge of their oil barrels and destroy the inspector's brands on all the empty packages, or they may lose in the gauge and be fined by the government.

TO TEST COAL OIL.—Put a *small* quantity of the oil to be tested in a cup, set in a tin of water, and slowly warm the water, noticing the degree of heat in the oil by keeping a thermometer immersed in it. When the temperature rises, pass a lighted match (an electric spark is the best) quickly over its surface, at intervals. As soon as the gas or vapor given off by the heated oil, flashes or burns, its test is determined; that is, if it ignites when the mercury stands at 120°, it is an oil of 120° flash test. This is a simple and reliable method of proving the quality of oil.

PICKEREL.—The common Pike or Pickerel is a fish which abounds in all the rivers and lakes of the northern United States, and is excellent for eating. Large numbers are taken through the ice in winter, by means of a hook, and sent to market in a frozen condition. The lake Pickerel is also salted and packed in barrels, but its flesh is not very good in this condition.

PORT WINE.—Port wine is a wine *supposed* to be shipped from Oporto and Lisbon, Portugal; but, as a matter of fact, not more than one-eighth of the wine bearing that name can legitimately claim Portugal as its birth-place. It is made from grapes. When perfectly pure the wine does not acquire its full strength and flavor

until it has stood for years. Its value, therefore, increases with age. It is one of the most extensively imitated of all wines, being in small supply and of sufficient market value to make the imitation a paying investment.

POTASH.—Potash is the solid substance or ash which remains in the pot in which is evaporated the water impregnated with wood ashes. When deprived of its carbonic acid, it is known as *caustic potash*. It is used in making soap, soap powder, and all washing preparations.

POTATO.—The potato is a native of the table-lands of Mexico, Peru and Chili, where it is yet found growing in its wild state. Its culture is said to have been carried from Florida to Virginia by the Spanish explorers, and from Virginia to England in 1565 by Sir John Hawkins; it was cultivated in Ireland in 1610, where it furnishes three-fifths to four-fifths of the entire food of the people. In the eighteenth century it was cultivated in the New England States, and is now in univereal cultivation in Europe and America, and is the most productive of our food-bearing plants; the same area of ground producing thirty times greater weight of potatoes than of wheat. They should be placed as soon as gathered in a cool, dark place. Potatoes, besides water, consist almost wholly of starch, with a small proportion of sugar. As a sole article of food they are not adaptable, and are eaten in connection with other foods, animal and vegetable. A large number of varieties are in cultivation, and new ones are constantly being added. The best varieties seem to deteriorate by long cultivation, and new ones must take their place. Among the best varieties now in cultivation are the Early Rose, Peach Blossom, Snowflake, Extra Early Vermont, and Compton's Surprise. The annual production of potatoes in the United States exceeds 185,000,000 bushels. Of late years the Colorado beetle has done serious damage to the crops, but its ravages are now stayed by artificial means, and no great alarm is now manifested. Potatoes yield, by distillation, a *brandy*, known as *potato spirit*, and largely used in the adulteration of wine brandy. Potatoes are extensively used in the manufacture of starch.

PINEAPPLE.—A tropical fruit, so called from its resemblance in form and external appearance to the cones of some species of pine. As the pineapple has become naturalized in parts of Asia and Africa, its American origin has been disputed, but there is little doubt that it is a native of Brazil and perhaps of some of the Antilles. The pineapple in cultivation rarely produces seeds, but in ripening the whole flower cluster undergoes a remarkable change; all parts become enormously enlarged, and when quite ripe, fleshy and very succulent, being pervaded by a very saccharine, highly-flavored juice. Instead

of being a fruit in the strict botanical sense of the term, it is an aggregation of accessory parts, of which the fruit proper, the ripened ovary, forms but a small portion; in this succulent mass, gorged with juice and blended together, are the stem, corollary and ovary; indeed the pineapple is analagous in structure to the mulberry, though that ripens its seed. The first pineapples known in England were sent as a present to Cromwell; the first cultivated in that country were raised about 1715, though they were grown in Holland in the previous century. Pineapples are taken from the West Indies to England in considerable quantities, but the fruit is so inferior to that raised under glass, that its cultivation for the market is successfully prosecuted. Better West India pineapples are sold in our markets than in those of England, as we are nearer the places of growth. The importations are very large, the receipts in New York, in a single year, aggregating 5,000,000 pineapples. The larger numbers come from Eleuthera, San Salvador and Harbor Island. The business of canning pineapples is largely pursued at Nassau, New Providence, whence many are also exported whole, both to England and the United States. Aside from its use as a dessert fruit in its whole state, large quantities are canned in Jamaica and other localities for exportation. The juice is used in considerable quantities in flavoring ices and syrups for soda water. The expressed juice is put into bottles, heated through by means of a water bath, and securely corked while hot; if stored in a cool place it will preserve its flavor perfectly for a year. The leaves of the pineapple contain an abundance of strong and very fine fibres, which are sometimes woven into fabrics of exceeding delicacy and lightness.

POULTRY.—To select good dressed poultry, see that the eye is bright, feet soft, moist and limber, and the body perfectly free from bruises or stains. Young poultry should have a breastbone no harder at the lower end than the gristle of a man's ear; and after it becomes too stiff to bend at all, the fowl is generally tough and old.

POULTRY SEASONING.—This is a preparation of spices and herbs already mixed for use in stuffing fowls. It meets with considerable sale during the fall and winter holidays.

PRESERVES.—A term rather indiscriminately applied to any kind of fruits, preserved by any means and for any use. Fruits used by confectioners are preserved by boiling the fruit with from one-half to its equal quantity of sugar. Preserves made of the juice only, by carefully straining it from the solid portions, and boiling it until it becomes thick when cool, are known as *Jellies*. The fruit is also boiled *whole*, in sugar or syrup, and allowed to crystallize, when they are sold as *Crystallized* or *Candied Fruits*. Very good qualities of preserves are put up in five and ten pounds in pails for the trade, and retailed by the pound. Care should be taken to keep such goods

closely covered, for one fly will often do much mischief, and spoil a grocer's reputation. A wooden spoon should be used to take them out; as metals are apt to turn their bright color to a duller hue.

POTTED MEATS.—Various meats rendered highly nutritious by evaporation, packed in convenient jars and ready for table use.

PRUNES.—The Prunes of commerce are the dried plums of certain cultivated varieties, and are obtained from France, Spain, Austria, Hungary, Germany, and various parts of Turkey. The best prunes are those from Bordeaux. Various modes of curing are resorted to. The fruits are not gathered until the dews are dried off them by the sun. They are then picked by hand and spread in shallow baskets, which are kept in a cool and dry place. When they become soft they are shut up close in spent ovens and left for twenty-four hours. They are then taken out and replaced, after the ovens have been slightly reheated. On the following day they are taken out and turned, by slightly shaking the sieves in which they have been laid. The ovens are heated again, and they are put in a third time, and after remaining twenty-four hours more, they are taken out and allowed to get quite cold. After some further manipulation they are submitted to oven heat twice more, and then packed into jars or boxes for sale. This treatment is only accorded to the finer kind of prunes, though some of them are still further treated in different ways, being given a dark color by a harmless pigment, and kept moist for packing in boxes by the addition of a coat of glycerine. This is to please the eye only, for it adds nothing to the flavor or quality of the fruit. The drying process requires considerable skill, the aim being to develop the saccharine properties of the fruit, without changing its flavor or deteriorating its fruit-like quality, so that they may be ready at any time for use on the table or in the sick room; for prunes are often ordered by physicians for their cooling and aperient qualities, and also as a vehicle in which to take unpalatable medicines. They are also used in cookery.

French Prunes of the better grades are put up in tin boxes and glass jars, which are hermetically sealed and labeled, and are then ready for market. If the season has been good, the quantity of large and prime fruit is considerable. The largest fruit and highest grade or quality of French prunes, run about forty to the pound. From this they range in number, according to grade, to one hundred and thirty to the pound. The figures *fifty to fifty-five, eighty to eighty-five, etc.*, found in our price-lists, refer to the number of prunes to the pound; the best prunes coming from the cultivated trees grafted from the wild plum stock. The common sorts are roughly shaken from the trees, and as carelessly packed in casks. They have to be stewed before they can be brought into the market. The Servian, Turkish and Austrian prunes are all of this common quality; but there are

some good samples from Hungary. The fresh crop arrives in December. The annual value of the prunes and plums consumed in the United States, may be stated in round numbers as \$2,000,000.

PRUNELLES.—Are a peculiar kind of Prunes, with the stones removed; but they are not so popular as the ordinary article.

PULVERIZE.—A term signifying to reduce to powder, and referring to any granular article, such as sugar, cereals, etc.

PUMPKINS.—This fruit is of various forms, sizes and colors. The flesh of the rind is usually yellow, and the cavity loosely filled with a yellow, stringy pulp. It is generally raised with Indian corn. Pumpkins are largely offered for sale in all our markets, and are used in soups and making of pies—the “Pumpkin pie” of New England being a prominent feature in American domestic history. The pumpkin is of great value as food for cattle; but as a garden vegetable it is inferior to the squash, which may be said to have taken its place. They are also dried; and ground pumpkin, in the form of “flour” or “meal,” is also an article of commerce.

QUINCE.—The Quince is very closely allied to the peach. It has a rich yellow, orange color, with a strong odor; is a hard fruit, seldom eaten raw, but when stewed with sugar is very agreeable, and is used either by itself or to flavor apples. It is also used for making a preserve, erroneously called *marmalade*. A very delicious drink is made from it resembling cider. Gum is also extracted from it. It is very generally cultivated in this country. Among the best varieties are the Orange and Portugal. Quinces are in season from October to December.

QUINTAL.—A weight, varying in different countries. Generally, and in the United States, it is about one hundred pounds.

RABBITS.—These animals are plentiful in this country, both in the wild and domestic state. They are tender when under one year old. Their age can be easily ascertained by their paws and ears, which should be very soft if they are young. Domestic rabbits should not be eaten, unless they have had a wide range, free from manure or heaps of refuse, and plenty of opportunity to burrow in dry soil.

RACAHOUT DES ARABES.—An Arabian substitute for chocolate; a preparation of roasted acorns, ground and mixed with sugar and aromatic spices.

RADISH.—A plant of the mustard family, cultivated chiefly for its root, which is sometimes long and sometimes globular, and varies in size from a chestnut to a turnip. They may be white, red or black in color. They are raised in immense quantities, and used as a table relish, but do not contain much nutriment, and are

rather indigestible. Early radishes are largely raised in the Southern markets, and shipped to the North, where they bring good prices and find a ready sale. Among the best varieties for summer cultivation, are the Long Scarlet, Short Top, Scarlet Turnip, Scarlet Olive-shaped and White Turnip and Long White. For fall and winter use, we have the Yellow and Gray Turnip Rooted, Rose-Colored Chinese and Black Spanish. The season begins in April.

RAISINS.—Raisins are made from grapes, and prepared in two ways by drying. One method is to partly cut through the stalks and allow them to dry on the vine in the sun. These are by far the best sort, and all Muscatels or Malaga raisins are so treated. The other mode consists of drying them after they are taken from the vine, either in the sun or in ovens, and sometimes dipping them in a solution of alkali made out of wood ashes and water. After this dipping, the fruit is laid on benches to drain and exposed to the sun for two weeks, when they are removed from the stalks and packed for export. There are really four different kinds in the market, varying widely in quality. *Muscatsels* are a large, black fruit, and when of fine quality possess a rich purple bloom. *Valencias*, another Spanish variety, are best when of a dry, bright yellow appearance, and free from all but the very small stalk. *Sultanas* or seedless raisins come from Asiatic Turkey, and are finest when of a pale yellow, transparent color. *Smyrna* raisins are similar in appearance to *Valencias*, but are considered the lowest class on the markets, the fruit being usually very stalky and small. A very agreeable wine is made from raisins. They are packed in casks, frails and boxes. The whole box should contain a specified number of pounds, and the half and quarter boxes should be proportionate parts of the same; but as gross deception in weight had crept into the trade, a general protest was made against the abuse, and in some degree it has been rectified. Dealers should insist on having full net weights. The value of the raisins consumed annually in the United States averages \$2,600,000. The European grape succeeds perfectly in California, and the production there increases each year.

RAPE SEED—Also known as Kale seed, when handled by grocers, is used as food for cage-birds. It is largely cultivated for the manufacture of oil for lubricating machinery, known as *Rape oil*; the residue, after the oil is expressed, is pressed into a very close mass, called *Rape cake*, which is used to feed cattle, for which also even the stalks are utilized.

RASPBERRIES.—This delicious fruit grows wild, but the cultivated species are generally sold in our markets. The fruit is used as a dessert, usually accompanied by red and white currants. It is also made into jams, jellies, and for making various descriptions

of flavoring extracts; and is furthermore mixed with brandy, wine or vinegar, for the preparation of *Raspberry Syrup*, *Raspberry Vinegar*, etc. Raspberries fermented, either alone or with cherries or currants, make a very agreeable *wine*. Blackberries are of the same species as raspberries. They are seasonable from June 15th to August 15th. The delicate flavor of these berries is entirely lost after they have been kept a few days. They are much used, with currants, for cooking in pies and puddings.

RASPBERRY VINEGAR.—This is a preparation made from Raspberry juice, vinegar and sugar. It is best made by putting carefully gathered, very ripe raspberries into jars, and, when full of fruit, fill up the space with vinegar; let it stand for eight or ten days, and pour the liquid off carefully. This process is sometimes repeated three times. The liquid is then gently boiled for five minutes with its own weight of refined sugar, and then tightly corked in bottles. Added to water it makes a refreshing summer drink.

RATS.—A most destructive pest, and one which should be vigorously exterminated. If a grocer finds his store overrun with these vermin, he should get rid of them at once, their destructiveness to property being astounding. A good cat is the best remedy. If poisons are used, and any of them die about the premises, chloride of lime or other disinfectants will neutralize the odor.

REAM.—A quantity of paper which should contain four hundred and eighty sheets of any size, but seldom running full count, especially in grocers' straw wrappers, which average less than four hundred and fifty sheets to the ream. Count your paper and get what you pay for, but bear in mind that if a ream containing four hundred and fifty sheets is really worth forty-five cents, it will be necessary to pay forty-eight cents for full count.

RENNET.—Rennet is prepared from the stomach of a young calf, by soaking it in water for several weeks, or if need be a whole year. It is used to coagulate milk, and in the manufacture of cheese. It should be prepared with great care and delicacy, and is sold generally to a select class of customers. It comes in small bottles, about the size ordinarily used for extracts.

REVALENTA ARABICA.—The Farina made from the interior of the Lentil, which is used as food for infants and invalids.

RHUBARB OR PIE-PLANT.—A plant of the Buckwheat family, very valuable for its properties, and as cultivated in the gardens, furnishes many varied dishes for the household—its fleshy, acid stalks being used in early spring as a healthy substitute for fruit in making pies and puddings. The principal varieties are the *Linnæus*, *Victoria* and *Cahoon*—from the last-named variety a popular

household wine is made. It is largely cultivated in all our chief cities, and is to be found in every market garden. The thick end of the leaf-stalks alone are used, the leaves being unwholesome. If these stalks are dried in the sun, they may be kept for a very long time; and, if soaked in water over night, will be found almost as good as when freshly gathered. It is in season from April to September.

RHUBARB ROOT OR MEDICINAL RHUBARB—Is quite a different species from the above, which grows principally in Turkey and China or Chinese Tartary, and is sold by chemists and druggists every where, as it is universally used as a medicine in the pulverized form, and also in the form of a tincture.

RICE.—Rice is the seed or grain of a description of grass, and is commonly grown in all tropical and semi-tropical countries. It has been cultivated from the remotest antiquity, and was first introduced into this country from Madagascar, in 1694, by the captain of a vessel, who presented a bag of paddy to one of the merchants of Charleston, and from this seed originated a crop which now amounts, in the United States alone, to many millions of dollars annually. It is of the first importance as a food-product, nearly three-fourths of all the human race subsisting on this grain; so that in fact, it is equal in value, as a food-product, to wheat.

Patua rice, of small pearl-white grains, is the most esteemed of eastern products, but the large white, sweet-grained rice of *South Carolina* is superior to all other descriptions, and the most widely cultivated. The eastern rice is usually shipped in its hulls, while that from the southern States is always decorticated or cleaned. It grows best on lands that can be flooded, and on the islands of the coast the fields are usually dyked in, or surrounded by ditches, and regularly flooded at high tide, so that the water is retained on them after the ebb. Two crops can be secured in one year, and the total product of rice is estimated at six times that of wheat. Its use in the more northern countries, in the place of potatoes, which are generally more expensive and always more uncertain in quality, is much restricted by the general ignorance of how to cook it. Grocers in the northern States, who handle rice mainly as a luxury, and sell a few pounds to go in soups and puddings, can have no idea of its wide sale in the South, where a very moderate-sized store will have four tierces of it open at once, close to the doorway, and labeled with price-cards, each tierce being a different grade—as fancy, whole, middling and small. The grades depend almost wholly on the damage done to the grain in hulling it; there is no limit to the grades which can be reckoned, from the fancy head rice down to the finely-powdered article.

The broken rice, if freed from grit, is equally as good as the whole grain. The small rice is sometimes ground into flour, and is

used to a considerable extent to adulterate wheat flour, to give it whiteness. Although rice constitutes so large a portion of the food of the human family, with us it is used more as a luxury in the form of puddings, cakes, jellies and soups. It is easy of digestion, and an excellent food for invalids. In the East, *wines and fermented liquors* are made from rice. The average annual imports into this country are not less than 75,000,000 pounds, of the value of \$2,000,000; and the exports for the same period aggregate 15,500,000 pounds, at a value of \$428,617.

ROPE.—This is a general name for all kinds of cordage, but more correctly applied to cordage of more than an inch in circumference, the smaller sorts being called twines, cords and lines. The varieties of rope are numerous, including the Manilla, sizal, cotton, hemp, and cordage made of different kinds of grasses. The cultivated hemp and flax are preferred in making rope, as the fibres possess great tenacity. [For approximate weight and strength, see tables in this book.]

ROSIN.—The residue remaining, after distilling crude turpentine, obtained from the pine tree. The water and volatile oil pass over, and the rosin remains as a pale yellow, and transparent or brownish yellow, and translucent, according to the purity of the crude turpentine, and the care taken in its manufacture. Rosin enters largely into use in the manufactures and arts. It is used in varnish and cements, in plasters and ointments, in caulking of ships, in the manufacture of soap, and in covering the surface of the bows of violins, to produce vibrations. It was formerly employed in the production of *Rosin oil*, and used for illumination. The rosin of commerce is mostly furnished by North Carolina and Virginia.

ROOT BEER EXTRACT.—Root Beer Extract is put up in convenient packages, which country dealers will find very salable. Each package makes about five gallons of the beer, and many dealers find it profitable even to bottle it.

ROQUEFORT CHEESE.—This dainty, the use of which is confined to the richest families, is made from the milk of sheep and goats, at the town of Roquefort, in France. The milk is skimmed, strained, and warmed to a boiling point—left to gather into curds, the rennet added, and then made into cream. Then bread, made from the finest barley, which is put into a damp place until every crumb has become covered with mould, is mixed with brewers' yeast, kneaded until it comes into a paste, and again thoroughly baked. This hard crust is then pounded in a mortar into a fine powder, and layers of the bread and curd are placed alternately in the cheese moulds, wrapped in linen and dried. After laying in this condition for several days, it is taken to certain vaults in the limestone caves in

the rocks close to the town, where the cheese, wrapped in linen, is piled up and salted, and frequently rehandled and rubbed, so that the salt will penetrate them, after which they are scraped and pricked with long needles, so that the mould may run entirely through them, and they are again piled up until perfectly dry and covered with long, white mould. Very few people who know the cheese well, are aware of the care taken to please their palates. [See Cheese.]

RUM.—A spirit made by fermenting and distilling the sweets that accrue in the manufacture of sugar. It is also made from the skimmings of scum from the hot molasses; but this is of inferior quality. When first distilled it is white, but is usually colored with burnt sugar or caramel. The quality of rum is much improved by age, and as much as sixteen dollars has been paid for an imperial pint bottle of old rum. It is imported from all sugar-growing countries. Its adulteration and very strong odor has considerably checked its use in this country, as compared with other liquors. The term "Pine-apple Rum" is derived from a custom adopted in some West India Islands to put slices of pineapple in the casks to flavor the rum.

RUST.—Rust does more mischief than any amount of wear and tear. All goods subject to rust, such as tinware, etc., should be kept in a dry place, whether intended for immediate sale, for show or for storage. All such packages should be plentifully rubbed with oil, to prevent rust. Articles already rusted can be cleansed with emery cloth and sweet oil; and if considerably rusted, a good soaking in sweet oil for a week will restore them to their normal condition.

RUSSET.—A species of eating apple, of reddish-brown color, coming to maturity in the fall. [See Apples.]

RYE.—One of the staples of American and European produce, very similar to wheat and next in order to it in quality, though not nearly so nutritious. It is extremely hardy, and of all the cultivated grains has not shown any material improvement from that growing wild. When made into bread, it is heavy, close and coarse. In Russia it is the chief food of the working population; but in America the chief consumption is among the Anglo-Saxon or native sections of the community. Bread made from rye has aromatic and stimulating properties, which are increased in baking, which make it a special favorite with the Germanic and North-of-Europe emigrants; but there are only a few mills which make the production of rye-flour a specialty, and these are of rather a primitive character.

SACK.—A bag or package made of course, heavy hemp or other fibrous material, in which flour and other pulverized grain is brought to market. Salt and other coarser goods are also sold in sacks. These sacks are by no means uniform in the weight and quality of their contents, as they vary with each brand.

SAGE.—Sage is an aromatic herb, much used in culinary preparations, on account of its peculiar smell and astringent character. It is the basis, also, of a strong essential oil. The leaves are dried and sold in packages for flavoring soups, preparing sauces, stuffing fowls, etc.

SAGE CHEESE.—A specialty, in which sage is the principal element; is made by cutting up the sage very finely, and mixing it with the curds. It is sometimes termed green cheese. [See Cheese.]

SAGO.—Sago is a kind of starch prepared from several of the species of the palm-tree. When it is taken from the tree it is in a coarse powder, which is mixed with farina and water, and is strained through sieves until the water is drawn off. It is then dried into a meal, and moulded into any desired form. As it comes to this country, it is prepared by making it into a paste with water, and then granulated. It is less nutritive than most other farinaceous foods, as it is almost pure starch. The best sago is of a slightly reddish color, and readily dissolves in hot water, though it is soluble in cold water. A single tree will yield from five hundred to six hundred pounds of sago. When boiled it swells considerably and forms a jelly. Sago is adulterated by the addition of potato starch, but may easily be detected by the microscope. Alcohol may be distilled from it in considerable quantities.

SALADS.—Under this general head, lettuce, endive, cabbage of various descriptions are necessarily included, which are eaten raw and dressed with vinegar, oil and other condiments. Cresses, parsley, beet-root, mint, young onion tops, capers, dandelions and various other vegetables of an aromatic nature, are also mixed with those first named, seasoned and flavored with oil, vinegar, salt and pepper, and form one of the most inviting dishes for the dinner or supper table, in summer and fall. Meats, when used in salads, whether lobster, crab, flesh or fowl, should not be minced, but cut in small, square pieces, from half an inch to one inch square. Salads are growing rapidly in favor; and all grocers desiring to preserve a select trade, should keep a choice assortment of salad oils, mustards, vinegar and spices, during the season, as salads are in daily increasing demand.

SALAD DRESSING.—This is a preparation put up in convenient form, in bottles, ready for use, so that housekeepers and families have merely to add to it the green meat grown in their own garden, or obtained from the grocer, and place it on the table.

SALT.—The most important item in the manufacture of butter and cheese, and in the preservation of meat and other material for preservation, is the character and quality of the Salt used. We do not propose to recommend any special brand of salt, but merely to

recommend to dairy produce men and grocers the principles on which they should select their salt for its respective uses. Salt is produced from nearly all sections of the civilized world, large supplies of the several descriptions of salt coming from France, Spain, Portugal, Italy, Central and South America. The pages of history prove that the European supplies (which were at one time sufficient to supply the home demand for the entire continent, and also leave a considerable amount for export), were chiefly from Russia, France, Spain, Portugal and Italy—the largest portion of the salt being found in mines and beds, in connection with other geologic formations, and consequently known as *Rock-salt*. These beds were doubtless formed by portions of the sea cut off from the main body, and, the water having evaporated or drained off, the entire saline constituents, in perfect purity, are left behind in solid beds, needing only to be extracted bodily and sold. Very frequently these natural salt beds are contaminated with various impurities, coloring matters being present which make it of a blue, red or yellow color. In this country there are large deposits of rock-salt in Louisiana, which served for the almost entire supply of the Southern States during the rebellion. No country is better supplied with sources of salt, nor with better water for making salt than our own. The State of New York has a bed of salt underlying nearly all of its southern half, which extends under Lake Erie, and crops out in Upper Canada, Michigan, and still farther west. Pennsylvania, Ohio and West Virginia have their special deposits, and the Southern and south-western States have also an apparently inexhaustible supply. Natural brines furnish nearly all the salt manufactured in the United States. They are found abundantly at Syracuse and Onondaga, New York, in the Saginaw Valley, Michigan, at Saltville, Virginia, in Ohio, Nebraska, and various other localities. These brines are treated in somewhat different manners, according to the quality of the salt which the manufacturer desires to produce. For the production of coarse salt, artificial heat is not employed, the evaporation being effected by solar heat alone. In this country the evaporation is conducted in wooden vats, supplied with wooden covers, for excluding rain and to lessen the cooling of the brine during the night. In order to remove the impurities of the brine (which consist chiefly of sulphate of lime, gypsum, chlorides of calcium and magnesium, and carbonate of iron), several different vats are used in the evaporation, the brine being drawn successively from one vat to the other. For the production of common fine salt, large iron pans or kettles are used. After the impurities are removed, it is allowed to drain for some hours, the salt is removed to the stove rooms, where it is dried for two or three weeks, when it is fit to be barrelled and sent to market. There are two methods of evaporation used in the manufacture of salt, according to which the name of the salt is determined. That made by exposure to the air is called

"Solar;" that produced by boiling is called "Boiled." Solar salt, as it comes from the vat, is called "Ordinary Coarse." When screened, the coarsest is called "Diamond C;" the second grade is called "Diamond B C," and the finest "Diamond F." "Common Coarse," when ground, is called "Ground Solar," and an equal mixture of "Common Coarse" and "Common Boiled," is called "Ground Alum." "No. 2 Ordinary Coarse" is dirty, unscreened solar salt, and is used for *salting hides* and other purposes, where cleanliness is of no special consequence.

The chief brands of Boiled Salt are three in number: The salt, as it comes from the kettle, is termed "Common Fine." If, in the process of boiling, an ingredient is thrown in to cut and soften the grain, it is denominated "Anthracite;" and, if made from the water as it comes from the wells, it is termed "Agricultural," signifying the use to which it is devoted. From the "Common Fine," or common boiled salt, the "Factory-Filled," or F F salt, for dairy and domestic purposes, is made. It is put through a special chemical process, by which all the impurities are removed, then dried, ground, and put up in barrels, bags, pockets, etc., just as it appears in the market.

In the use of American or any other salt, care should be taken to use the several brands for the purpose they were intended for. The solar salts are designed for packing, curing and preserving provisions and fish; the solar salt for packing meat, the factory-filled for culinary purposes and dairy produce. There are two kinds of salt used for fertilizing purposes: the "Refuse" (dirty salt of all kinds), and the "Agricultural," which is boiled from the unsettled and unpurified water as it comes from the wells, and containing all the impurities, which makes it all the more valuable as a fertilizer. On many soils salt acts as a solvent of other ingredients in the soil, thus setting free for use, as plant-food, elements which would otherwise be unavailable, because insoluble. The quality of both coarse and fine salt depends upon the amount and kind of impurities present in the brine, and the care exercised in removing them in the process of manufacture. The chlorides of calcium and magnesium, and the sulphate of magnesium, is present in large proportions in the brines of Michigan and Ohio—hence the difficulty in using either of them for dairy purposes, as dairy salt should be entirely free from these bitter salts. The New York salt, being comparatively free from them, is found specially suitable for that use. Ordinary coarse salt is chiefly used in salting pork and beef, whilst common fine salt answers well enough for ordinary table use, and large quantities are converted into "soda," to be used in the manufacture of soap and glass, and by the house-keeper in cooking. Hydrochloric or muriatic acid, used extensively in the arts, and chlorine, employed in the bleacheries for bleaching cloths, are made by decomposing common salt. The imported brands

from Liverpool come in bags weighing two hundred and twenty-four pounds; that from New York State in barrels and bags of two hundred and forty and two hundred and eighty pounds; the Saginaw in two hundred and forty pound barrels; the table salt comes in cases containing sixty boxes, each containing two pounds. Salt also comes in small packets, put up in sacks, three sizes, viz., twenty-five ten-pound packets, forty six-pounds, and eighty three-pounds. The annual production of salt in the United States aggregates about 25,000,000 bushels, the home consumption amounting to 15,000,000 bushels.

The Onondaga salines, in New York State belong to the State, which receives a royalty of one-cent a bushel, the cost of manufacture is about six cents a bushel, and the average yield exceeds 8,000,000 bushels; those in the valley of the great Kanawha, in West Virginia, yield about half the quantity of the Onondaga. Salt manufactured in the United States is much better than that made in Spain or the Azores. Large quantities of salt are imported into this country from Turk's Island.

SALMON.—Whether in Europe or the United States, Salmon is and always will be a favorite dish. It is the most delicious eating of all the finny tribe. In the United States it is found in some of the rivers of Maine; on the Pacific coast it has achieved the magnitude of a commercial pursuit, and on the Columbia River, in Oregon, large numbers of men make it a very profitable occupation. The fish are taken only at night; and when the water is clear and the weather favorable, two men with a boat and tackle, will realize twelve hundred pounds weight in a single night. Salmon are found in great abundance in the waters of Alaska, considerable quantities being packed in barrels and shipped to the eastern markets. The artificial production of salmon is now being carried on by the United States Fish Commission, and the principal streams have been stocked with the young fish. Salmon is sold fresh, in bulk, but chiefly as canned goods; the oldest and most popular brands of salmon command high prices, but many of the newer and less known are quite equal in flavor and quality, and bring as good a price. Dried and smoked salmon (in which form they first appeared in our interior markets) still maintain their importance. It is also canned with various spices. The take of salmon on the Columbia River, averages about 1,700,000 annually, weighing not less than 30,500,000 pounds. The salmon on the Pacific coast weigh from ten to thirty pounds, and are canned in factories located at the river's edge; the great care taken both in the selection, the preparation and the canning of the Pacific salmon, has placed them at the top of the quotations, both for home consumption and for export.

The salmon is very extensively distributed in northern Europe

and America, being found in Great Britain, the Orkneys, France, Belgium, Holland, Germany, Russia, Denmark, Sweden, Norway and Iceland, getting across from the English Channel and to northern seas by the Tweed, Tay, Severn, Loire, Rhine, Elbe, etc.; it does not occur in rivers falling into the Mediterranean, and does not come below the 45th parallel of latitude; in North America it frequents the rivers of Labrador, Canada, Newfoundland, Nova Scotia, New England, and those of New York communicating with the St. Lawrence, ascending even to Lake Ontario. Salmon can live without access to the sea, as is seen in Sebago and other landlocked lakes of Maine, but they are of inferior size and quality. The river Thames Eng., was once celebrated for its salmon, but its stream is now too impure to invite them to enter. The Merrimac River, Mass., formerly swarmed with salmon, weighing from nine to twelve pounds, but the numerous dams and manufacturing establishments have driven them away, and the northern markets are now supplied from the Kennebec River and the British Provinces, and from the Pacific coast. The salmon enters the rivers of Nova Scotia in the latter part of April, the rivers emptying into the Bay of Fundy a month later, and those emptying into the Gulf of St. Lawrence in June. The flesh of the salmon is exceedingly delicate, and of a tint of pink which has received therefrom the name of salmon-colored.

SALTPETRE.—The scientific name of this product is Nitrate of Potassium, and is also generally known as Nitre. It is chiefly obtained from Peru and the East Indies; forms the principal ingredient in gunpowder, is a powerful antiseptic, and is largely used in the preservation and corning of meats, butter, etc. Saltpetre imparts a bright red color to animal substances into which it is rubbed.

SAMP.—A term sometimes used for hominy, especially the large-grained description (so common in the Southern States), the half-kernel and the whole kernel samp.

SAMPLES.—The sending of samples by mail, by all tradesmen, has become an important arrangement in every New England city; and has proved almost as advantageous to the grocery trade as to the dry goods, the grain trade and other departments of commerce. Merchandise, seeds, cuttings, etc.,—anything which is not liable to be destroyed, defaced or damaged, or of a nature calculated to damage the usual contents of the mail-bag, can be mailed at the rate of one cent per ounce. Metallic packages have been constructed for the mailing of samples of flour, soap and other similar articles. The list of unmailable articles includes liquids, poisons, explosive and inflammable substances, liquefied or liquefiable fats or oils, live or dead animals (not stuffed), insects and reptiles, fruits or vegetable matters, confectionery, pastes and strong-smelling substances.

SANDWICH MEATS.—A novel article in canned goods, prepared ready for use in making sandwiches, and usually consisting of thin slices of ham, tongue, etc.; they are also sold minced very fine.

SAPOLIO.—A description of soap specially designed for cleansing metals, wood, etc., and other domestic purposes—the principal element in it being a finely-powdered silica, mixed with alkali and other cleansing material.

SAPONIFIER.—Another washing or cleansing compound, used for soap-making, softening water, and other domestic purposes. It is a strong lye, and comes in one-pound tin cans.

SAP-SAGO.—A delicately-flavored cheese, made in Germany and Switzerland. It is of a dark-green color, flavored with melilot-leaves, and when prepared for table use should be grated.

SARDINES.—These "little fishes boiled in oil" originated an industry which has contributed materially to the prosperity of the coast population of France. They took their name from the place in which they were first caught, viz., in the Mediterranean Sea, near Sardinia. They are from three to five inches in length, and the fishery gives employment to about thirty-five thousand people, and in the preparation of the fish to quite as many more. Large quantities of these fish are shipped to the United States, but they are not so generally used as they formerly were, the fish having degenerated, through the substitution of ground-nut and cotton-seed oil for the pure olive-oil, which should be used. The plentiful supply of canned fish, meats and poultry, have also contributed greatly to their diminution. The "American Sardine," as it is called, is simply a preparation of the smaller "whitefish" or menhaden, which are canned at Eastport, Lubec, Jonesport and several other places in Maine. There are also several factories in operation at the present time in New Jersey. The fish are prepared by softening the bones by steam, and trimming the body to the proper size. Many of the retail dealers of New York and other cities regard the American sardines with suspicion and even dislike. The entire packing done in the United States is a little over seventy-two thousand cases.

SAUCES.—Are compounds of vegetables, meats, spices, etc., mixed with wine or vinegar, reduced to a liquid form and used as a relish or condiment to use with other food. There are a large number in the market, both English and American, and are very various both in quality and flavor, each manufacturer generally having one or more recipes in his possession, which he makes a specialty. The American sauces have, however, latterly reached such a pitch of perfection, that they have gained a decided precedence in their own markets and also in foreign markets.

SAUERKRAUT.—A dish of German origin, and consisting of close heads of white cabbage, cut into fine shreds, placed in a cask or barrel, with salt, peppercorns, caraway seeds or anise seeds, etc., and placed under heavy pressure. After a severe pounding, it is allowed to remain for some days in a warm place until fermentation takes place, when it emits a very disagreeable acid, fetid odor. Some strong brine is then added, and it is considered ready for use. It is partly washed from the salt before using, and is eaten boiled or fried with meats, or cold as a salad. It requires about two hours to complete its cooking.

SAUSAGE.—Pork, beef or other meats, chopped up very finely, and mixed with various seasoning herbs and other ingredients, and enclosed in a skin. Portable machines are now sold for making them, and housekeepers can make their own sausages, without the labor and tediousness of chopping with a knife.

SCOOPS.—These are very essential articles in a grocery store; and every grocer should supply himself with a plentiful number of good, strong scoops of all sizes, and of a lasting and satisfactory character. Steel scoops and three-ply wooden scoops are among the best.

SCRAPPLE.—Another German dish, composed as follows:—A young pig's head, well boiled; then chopped up very fine, and mixed with the liquor in which it has been boiled; which is afterwards thickened with buckwheat and Indian meal, and seasoned with spices and herbs. It is then placed in pans to cool, when it is sliced and fried for the table.

SCALES.—Among all the fittings pertaining to the storekeeper, there is no article requiring such constant care and attention as the Scales. In this article particularly, the best will be found by far the cheapest in the long run. There should always be two or more pairs kept of a size suitable to the bulk and character of the goods to be weighed on them; and special care should be taken not to get them out of order by overstraining them with the bulky or heavy goods.

SEALING WAX.—Though the use of this article has been largely superseded in many departments of trade and commerce by the gummed envelope, the rubber ring and other ingenious devices, there are yet remaining many ways in which its use may be made advantageous. It is usually made by mixing shellac, Venice turpentine, Peru balsam, vermilion and sulphate of lime; and in the cheaper kinds, red lead is substituted for vermilion, and common rosin is also added. Black sealing wax is made by substituting ivory black for the vermilion or red lead.

SEA-MOSS.—This marine vegetable (for, growing near the sea, it partakes more of the character of seaweed) is also known by the names Sea-moss Farine, Iceland Moss, Reindeer Moss and Lichenine. It is universally known for its nutritious, restorative and medicinal qualities. As a diet for infants, weakly children and invalids, it is invaluable. It is sometimes pounded and made into bread; boiled in water or milk (generally milk), and made into a jelly; is often made up into puddings, pastry and blanchmanges, and mixed with cocoa, chocolate or broma—in either way proving highly nutritious and palatable. It is composed almost entirely of starch; grows abundantly on the shores of the northern seas, and, in some southern countries, on the mountain lands.

SEEDS.—Seeds, both for the flower and kitchen garden, are articles which every grocer may keep on his shelves without inconvenience, as they do not take up much room, find a ready sale, and afford a good margin for profit. The only precautions necessary are not to lay in too heavy a stock, and to carefully protect them from the action of the air or artificial heat.

SELF-MEASURING FAUCETS.—These are specially designed for grocers' use, and will be found very desirable in measuring liquids (especially molasses, oils, etc.), as they can be used in the coldest weather without the chance of freezing or congealing. The faucet holds exactly one gill, or quarter of a pint (standard measure), at one time—hence its title of self-measuring.

SEMOLINA.—A preparation of wheat grown in Italy and southern Europe, similar to macaroni, and which is the residue of the grain not reduced to powder after passing through the bolting machine. There are various inferior imitations, but the true semolina is dry and hard. It is very nutritious, and is used like rice, in soups and puddings. A similar preparation is made from maize and millet, but it is very inferior, both in quality and flavor.

SHAD.—Fish principally inhabiting the northern hemisphere—living in the sea for the greater part of the year, but ascending the rivers in the spring for the purpose of depositing their spawn. They abound in the Hudson and Delaware Rivers, and in Chesapeake Bay, and furnish a very large proportion of the fish supply to the community, being sold both fresh and salted in our markets, and preserved for a still greater length of time by the process of freezing. Through the exertions of the United States Fish Commission, the rivers connected with the Gulf and on the Pacific slopes, have been stocked with young shad, artificially hatched. When fresh, the fish are solid, scales bright and gills crimson; those stale and unfit for food may easily be distinguished by their soft, flabby condition, and the whitish

color of the gills. They are in season from April to June. The shad roes are a favorite and exceedingly palatable dish.

SHADINE.—These, strictly speaking, are young shad, and are frequently trimmed, put up in oil, and sold as sardines. They are not over six inches in length, and are caught off the New York and New Jersey coasts.

SHADDOCK.—A fruit of the orange species, frequently seen and sold in our fruit stores, imported from the West Indies. It is considerably larger than the lemon, keeps fresh for a longer period, has an abundance of juice, and has also a much stronger acid. It is chiefly used to flavor punches, make (so-called) lemonades, and figures largely in preserves, but its flavor is not so delicate.

SHAKER GOODS.—This term includes a large number of articles—Dry Goods, Cereal Products and Groceries—all of which are specially characterized by their great purity and extreme cleanliness. The Shaker communities exist in various sections of the United States, and bring to our markets agricultural produce of all kinds, such as canned goods, herbs, fruit-butters, jellies, apple-sauce, etc.

SHELLS.—The shells or outer coverings of many of our food-products are capable of being utilized with advantage, both to the consumer and the tradesman. One of the most useful and popular of these, from a domestic point of view, is the shell of the cocoa bean, after preparation by roasting. It contains all the nutritive properties of chocolate and cocoa, but is not so rich, and therefore much more healthy as a beverage. Its use is chiefly confined to New York and New England, where it is universally used, not only in the domestic circle, but at the hotels and restaurants.

SHELLBARK.—One of the many varieties of nuts commonly used as a dessert. It is a species of hickory, and has a very thin shell. It is also used as a confection or candy, under the name of "Shellbark caramels."

SHOT.—Even in times of peace, shot is a necessary article to every community, and must necessarily be kept in abundant and constant supply at every store professing to keep pace with the wants of the people. They are manufactured from a compound of lead and arsenic, the arsenic being added to render the lead more capable of being moulded into the required form. Shot are made in several sizes, to suit the purposes for which they are required, and are distinguished both by numbers and letters. The smallest-sized shot is No. 12, and the size increases in proportion until it reaches No. 1, which represents buckshot, fifty to the pound.

SHOW-CASES.—Show-cases are a positive necessity to every

tradesman—the grocer more particularly. The days when blacking and violet-powder could be huddled up with salt fish and soda on one shelf, have long since passed away. If a grocer wishes to sell his goods, he must display them in such a way as to be perfectly protected from dust and rough handling, and this cannot possibly be done without show-cases on his counter, especially in reference to the finer class of goods.

SHERBET.—This beverage, originally introduced from the East, Turkey, etc., is made of the juices of various fruits, principally the orange, mixed with sugar and water. It is frequently scented with rose-water and other essences, and flavored with spices. It is very generally used as a substitute for fermented and intoxicating liquors, and is really a very refreshing beverage. In some countries, rum and various home-made wines are mingled with it, and called by the same name.

SHERBY.—A description of wine, supposed to be the product of grapes from Andalusia or Jerez. It contains about twenty per cent. of alcohol; is dry and very exciting. There are two kinds, pale and brown; both of which are very easily, and unfortunately very frequently, adulterated with inferior vintages brought up to the requisite alcoholic strength by the addition of bad and spurious brandies.

SHRIMPS.—A small and favorite fish, similar in form to the lobster, but very diminutive in size. It is imported here in the potted or canned form, and also in sauces, and are deservedly looked upon as a great delicacy. The *common shrimp* of the United States is quite a different article, and used principally as fish bait.

In reference to the shrimp, lobster, salmon, crab, and all similar goods imported in cans, we would urge upon every grocer and consumer the absolute necessity of keeping the can on ice until the contents are used, in order that the flesh may be firm and fresh. Nothing can possibly be more disgusting than to find the contents flabby and warm when placed on the table.

SHRUB.—A beverage better known in England than in the United States, but originated in the West Indies, and composed of rum, lime-juice, sugar and water.

SIEVES.—Sieves of all kinds, texture and sizes, are manufactured for domestic as well as store use, a full stock of which should always be kept on hand. They are made to suit all purposes—such as the sifting of flour, fruits, teas, etc., and are constructed of wire gauze, wire, cane, etc., according to circumstances.

SMELT.—A very small and delicate fish (weighing about two ounces each), abundant both in American and European waters, of

the salmon or trout family. It is eaten, like whitebait, bones and all; and when fresh, has an odor very similar to cucumbers.

SMOKED MEATS.—A very favorite American dish, especially in summer. In order to be kept sweet and palatable, great care should be taken to keep them in a cool place, and remove them from the package or tierce as soon as possible after their arrival. The fresher the smoked meats are, the more palatable they will be; it is much better therefore to purchase in small quantities, so as to ensure a fresh supply. The above term of course applies to hams; they should not be kept in their canvassed bags longer than possible.

SMOKED SARDINES.—American Sardines are mostly made up in this form. The operation of smoking usually reduces the size of the fish very materially; and consequently they are considered equal to the finest quality of imported sardines, and in many instances, are made to assume that character.

SNUFF.—Snuff is an article which every grocer is bound to keep, and is supposed to be made from tobacco, crushed into a fine powder. The grinding or pounding is usually done in a wooden mortar. Some descriptions are prepared from kiln-dried tobacco, while others are made from soft leaves. There are a large number of varieties, some of which are claimed to have strong medicinal properties. Snuff-taking is not as much resorted to in the northern and eastern States as formerly; but both snuff-taking and snuff-rubbing (an extremely dirty habit) is extensively adopted through the South and south-west—large quantities being manufactured expressly for that trade. The perfumed oils and essences used to flavor the snuffs are extremely injurious. The snuffs sold in the northern and New England States are chiefly plain and unscented.

SOAKAGE.—This term is used to represent an allowance made on all salted articles, when packed, to compensate for the amount of water absorbed by the cask or barrel; and the amount allowed is always calculated according to the size of the barrel and the condition of its contents.

SOAP.—The Soap manufacture in America has truly arrived at a colossal magnitude, and now exceeds Germany in its powers of production, and some of our soap-works possess greater facilities than the oldest on the European continent—one American establishment alone turning out 40,000,000 pounds of soap annually. The varieties of soap manufactured in the United States are so numerous that they cannot be enumerated. There are between one hundred and fifty and two hundred different brands of bar and household soap, nearly twice as many descriptions of fancy and toilet soaps, and a large number of medicated and patented soaps designed for specific pur-

poses—to which lists large additions are being made daily. Every thing known in the trade (whether of foreign make or not) has its counterpart in American manufacture, especially in bar-soap for household use. The staple household article is a curd-soap, containing more or less rosin. Soft soaps, such as are known in Germany, are not manufactured here, the chief cause being the cheapness of the hard soaps. Soft soaps (imported) can be brought free to any part of the continent at three dollars per hundred weight. As to the quality of soap made in America, it is no worse nor no more variable than that made elsewhere; it depends entirely on the price. The fats used for hard soaps are almost exclusively tallow and bone fats; oleic acid, cotton-seed oil and lard play a very subordinate part. Coconut-oil and palm-oil are but little used, the prices being too high—probably on account of the import duty. The lyes are almost exclusively prepared from caustic imported from England, as only those soaperies which possess an extensive plant for the purpose, can afford to causticise their own lye.

The fatty acids are combined with some metallic base, usually soda or potassa. The chief fats and true oils are the palmitic, oleic and stearic, with glycerine as a base. When treated with the alkaline hydrates or lie, these fats are decomposed, the potash or soda of the lye uniting with the acids and forming soap, while the glycerine is set free. Commercial soaps are now almost entirely made with a soda base, on account of the great cheapness of soda as compared with potassa. Soaps made from soda are generally hard; those made from potash are soft. There is a great deal of soft soap still used for domestic purposes, in which the refuse kitchen fats are employed, the lye being furnished by the leaching of wood ashes; the grease and lye being simply boiled together, until complete saponification takes place. It is by no means a pure soap, but it is very useful for all the coarser uses to which soap is applied, such as scouring wool and yarn, or the cleansing of any article in which there is a large amount of oil or grease. A good quality of hard soap is prepared by adding slacked lime to soda ash, the combination forming carbonate of lime, and leaving a solution of caustic soda or lye. The fats may be either animal or vegetable, or both, but they must be clean and sweet. If rosin is added, it is simply as an adulterant, and to cheapen the production. After the soap is boiled and become solid, it is left for about a week to cool off, when it is cut into bars with wires.

BORAX SOAP—Is made of tallow and borax, and is a hard, white soap, possessing remarkable cleansing qualities.

CASTILE SOAP—Is made of olive and rape-seed oils. There are a great many brands, both of American and English manufacture, professing to be pure Castile soaps, which are very inferior in quality. In making Castile soap, great care must be taken to avoid an excess

of alkali or soda—only just enough being used to neutralize the oil. For this reason the soap is much milder, and may be used in cleansing wounds and other surfaces where a common soap would irritate and cause pain. Its mottled appearance is caused by the presence of a small amount of copperas, stirred into it while liquid, which, when exposed to the air, turns red. *White Castile* is the same as the other, without the coloring matter. Though called *Castile soap*, it is far from being exclusively made in Spain, by far the largest proportion coming from the south of France. The *spurious* Castile soap may be easily detected by the coloring matter being in streaks, instead of mottled, as in the genuine.

COCOANUT-OIL SOAP—Is generally known as *Marine soap*, and is specially designed for washing in sea water, as it is not readily decomposed by the salt. It is very hard, and, from its peculiar properties, is much used at sea and in seaport towns.

COLD WATER SOAPS—Are specially manufactured for domestic use, where there are not the usual facilities for warm water; and for use in summer, when fires are comparatively unnecessary.

OLEINE SOAP—Is made from red vegetable oil, one of the best materials used in soap manufacture; it is more expensive than other brands, but is undoubtedly superior to others in general use.

SAND SOAP—Is manufactured with silver sand, or some of the silicates, in addition to the usual ingredients.

SAPOLIO—Is an article similar to silica, and is considered by the trade the best of its class. It is used to cleanse metals and wood, marble, etc.

SILICATED SOAP—Is made by the addition of sand or finely-powdered pumice-stone to ordinary hard soap.

SOFT SOAP—Is a semi-fluid compound, consisting of potash or alkaline wood ashes boiled with fats or oils, and containing the glycerine and a large proportion of water.

TOILET SOAPS—Are made from very pure and sweet oils, the saponification being conducted without the aid of heat, and the soap perfumed by the addition of essential oils.

TRANSPARENT SOAP—Is made by dissolving the soap in alcohol and solidifying it again; shaving soaps are included in this class.

YELLOW SOAP—Differs from the other kinds, by having rosin added to the lye. As it makes an excellent lather, it is an ingredient in most laundry soaps, and is at the same time a universal vehicle for all adulterating purposes.

ADULTERATIONS OF SOAP.—One of the chief adulterations is the

increase of its weight with water, which is held in solution by the introduction of certain chemicals, or by the addition of some soluble and insoluble mineral substances—such as hydrated alumina, silica, glue and other gelatinous matters. Waterglass, starch, gypsum, clay, bone ash and barytes, are also often used. Soap is readily soluble in alcohol, and the solution mixed with camphor and oil of rosemary, is known in drug stores by the name of *Opodeldoe*.

SOAP POWDERS.—This term may be said to include washing powders, and every article used to take the place of, or economise the use of, soap. They all have the same base, viz., carbonate of soda, lime, ammonia and borax, in various quantities, the relative proportions being in fact the only point of difference. They have a number of fancy names, such as Pearline, Lavine, Soapine, Sudsena, etc., but they are all manufactured on the same principle.

SOAPSTONE.—This substance is a magnesian mineral, so called from its soft, greasy feel, and under the name of *Mineral pulp*, is ground into a fine powder for the purpose of adulterating flour and butter, in order to add to its weight.

SODA—Is a mineral alkali, of which there are several varieties—that is, having the same elements in different combinations—the three principal being *Caustic soda*, *Neutral* or *Sal soda*, and *Carbonate of soda* or *Cooking soda*. It is largely obtained from *common salt* by a process of evaporation, and produces each of the three varieties we have named. Prior to the discovery of this process of evaporation by M. Leblanc, it was entirely derived from the ashes of *burnt seaweed* or *kelp*. The *caustic soda* is a prominent article in the manufacture of soap; *neutral* or *sal-soda* is the *washing soda* of commerce; and the *carbonate of soda*, known as *cooking soda*, is a predominant element in baking powders, bread preparations, and all substitutes for yeast, besides being used as a *summer beverage*, in combination with certain acids, and forming an important item in medicinal preparations. The articles sold as *saleratus* and *soda*, are practically the same thing. *Concentrated lye* is a strong solution of caustic soda and carbonate of soda.

SORGHUM SUGAR.—Sorghum is sometimes called the Chinese Sugar-cane, being a native of that country, and occupying the same position there as our sugar-cane does in the West Indies and the other sugar-producing districts. It was introduced into America by the French consul at Shanghai, some thirty years since, when it attracted much attention; and at the present moment, having become perfectly acclimated, gives promise to thoroughly revolutionize the sugar trade, and open up a vast field for profitable industry, and at no very distant period to utterly annihilate the present monopoly in that important article of commerce. The only circumstance

which seems to complicate the question, and somewhat arrest progress, is the great production of glucose from corn. but even this apparent difficulty will doubtless find its level. Sorghum sugar, as an article for cultivation in the United States, possesses many points of advantage, one of the chief being the large amount of good and palatable syrup to be drawn from it, which is readily obtained, and will soon replace molasses in the domestic economy. The cheapness of its culture, the easiness with which it is grown, and the uniform excellence of its produce, place it upon a wholly different footing to the sugar beet. It will grow on almost any soil, requires but little labor, and the juice is free from any disagreeable flavor—three features which the sugar beet cannot claim to possess. Professor Collier, of the Agricultural Department at Washington, says that “there is no difficulty in making from sorghum an abundance of sugar of first-rate quality.” The fact has been conclusively ascertained from the agricultural authorities and other experts, that the average yield of first-class sugar from the sorghum canes will amount to fully *two tons per acre*.

SORREL.—A well-known perennial plant, cultivated to a fair extent in the United States, chiefly for the sake of its leaves, which impart an agreeable acid, and is used mostly by the Germans and French in soups and sauces. It takes the same place in the French markets as spinach does in ours, and is nearly as abundant. It is very wholesome.

SOUP.—There are a great many descriptions of soup, both meat and vegetable, separate and combined, carefully packed in hermetically sealed cans, which add very considerably to the convenience of the housewife and cook, as they can be made ready for the table in a very few minutes. There is also another form recently introduced to the market, still more compact, viz., the dry soups or packages of ingredients, finely chopped, ready for use, which are very convenient and available.

SOY.—A very exquisite, delicate and popular sauce, prepared from a bean grown in China and Japan. The genuine article, being of a very choice nature, there are of course many very inferior and disgusting counterfeits. It should be neither too sweet nor too salt, and though syrupy and thick, should be perfectly clear. If genuine, the bottle or glass containing it, when shaken, should be enveloped in a bright yellowish film.

SPECIALTIES.—This term embraces everything out of the ordinary line of grocery goods, or not strictly within its range. Every enterprising grocer, who desires to improve the character and extend his trade, should take hold of every attractive and genuine novelty he can see; of course taking special care that the specialties

he handles are really good for something, and calculated to please his patrons.

SPECULATION.—There are two kinds of speculation, judicious and reckless—the latter leading directly to bankruptcy, and the former to certain prosperity. As a rule, speculation, in the ordinary sense of the word, is an evil which should be avoided by all tradesmen—whether it be considered on account of its riskiness or the amount of distraction it occasions, by diverting the mind of the grocer from his regular business developments. The only speculation which would be warranted by common sense, is limited by the *probable* demands of his business in the immediate future. The legitimate extension and improvement of his trade will or should engross all his time, energy and capital.

SPERM-OIL.—Prepared from the blubber of the sperm-whale, and used not only for illuminating and lubricating purposes, but as an insect exterminator, as, when mixed with a little water and sprinkled over rose bushes, it will exterminate the bugs which infest them.

SPERMACETI.—A solid, oily substance, of a white color and waxy consistence, found in a cavity in the head of the whale, and obtained from the oil and brains of the spermaceti whale, which is usually found in the Southern Ocean. It comes to market in nearly transparent flakes, is dry and crumbling, though soft; has the taste of butter and a tallowy odor, and is largely used in making candles, for medicinal purposes in general, and also in the laundry, to impart a gloss to the surface of the articles washed.

SPICES.—Spices are vegetable productions, distinguished by their extremely pungent and aromatic qualities. They are almost endless in their variety of form and flavor, are indispensable in cookery and confectionery, and are almost entirely the product of tropical climates. Their special commercial value is in the amount of aroma and pungency contained in their essential oils. Various sections of the plants are manufactured into spice—the peppers, pimento, mace, nutmeg and vanilla, being derived from the fruit; cinnamon and casia from the bark, and such as ginger from the root. A large number of spices are natives of South America, but the majority are natives of the East Indies. Spices are of special value in the manufacture of sauces, soups, salads, confectionery, and numerous culinary and manufacturing operations, and form an important and not unprofitable item in the grocer's catalogue. The various spices are described under their appropriate heads [which see].

SPINACH.—A garden vegetable, originally imported from Europe, but now universally cultivated in this country as a favorite article of domestic consumption. It is easy of culture, and is in sea-

son the year round. For spring use it is sown in the fall, and protected from frost during the winter. It is of the same character as dandelion. The varieties used are the round, prickly and New Zealand species.

SPRATS.—A small fish of the herring family, and used smoked, dried and fresh. They are frequently packed and sold as sardines, differing but slightly from that fish in size and flavor.

SQUASH.—A species of vegetable partaking of the character of the pumpkin and the gourd, but much more delicate in flavor than the former, and of great importance as an article of food. It is used both as a vegetable and as a fruit, and may be looked upon as a standard New England dish. They vary greatly in size, form, color and quality, are rapid growers, and are raised with little trouble. They form a prominent article in our markets, both winter and summer, the winter squash having special excellencies. Whether stewed or baked, in pies and tarts, or otherwise cooked, the demand for them is large and quite equal to the supply. The best of the summer varieties in cultivation are the Yellow and White Bush Scalloped, Summer Crookneck and Boston Marrow; the favorite winter selections being the Hubbard and Marblehead.

STARCH.—This substance forms a large part of our cereals and vegetables—wheat, rice, corn, peas and beans, sago, horse-chestnuts and potatoes—consisting of quantities ranging from twenty to sixty per cent. In the starch of commerce there are only two known descriptions—those used for food and those employed for manufacturing and laundry purposes. The starch in our markets is largely manufactured from the potato.

The *Corn-starch*, which enters so largely into the food for invalids and infants, and various articles of confectionery and the domestic pantry, is prepared from Indian corn—two large factories alone furnishing more than 40,000,000 pounds of starch annually, and consuming in its production upwards of 2,000,000 bushels of corn. Its manufacture, as now conducted by the *new chemical process*, is so superior in quality and flavor as not only to have superseded and driven out the foreign brands, which formerly found a ready sale in the United States, but it has created for itself a large export demand to Europe and other parts of the world, which is rapidly and constantly increasing. The new process of which we speak, entirely obviates the process of *souring* the grain, formerly resorted to, the gluten being separated from the corn by the action of acids and alkalies. The food-starches, of which maize, the sago-palm and manioc forms the basis, are the arrow-root and corn-starch, and consequently far less acid than the laundry and manufacturing article, which is made from

rice, wheat and potatoes. The potato or sprout starch, as it is sometimes called, from a special process in its manufacture, is inferior in character, and mainly used by calico manufacturers and others in the "dressing" of textile fabrics. Wheat starch is made in three grades—the first, or finest, being used for laundry starch; the second (a standard grade) adapted to the finer kinds of manufacturing work; and the third, or common, only used for the coarser and subordinate operations already referred to.

Starch making from potatoes is the great manufacturing industry of Aroostook county, Maine. It originated in 1874. The machinery for making starch from potatoes is very simple, requiring but little mechanical skill in its construction. It is a hopper, into which the potatoes are emptied by the bushel basketfull, from whence they pass through a cylinder about three feet long, where the potatoes are rattled about without ceremony among the frame work and arms inside, until they are washed perfectly clear of all dirt, water in abundance being constantly poured upon them by pipes from above. From thence the potatoes pass down upon a grater, two feet in diameter, made of staves four inches thick, three feet six inches long, with heavy cast-iron heads. The cylinder is covered with sheet iron, perforated with holes from within, so that the grater is perfectly fit for the work it has to do. In less than a minute a bushel of potatoes is worn up by the rapidly revolving grater, and reduced to the finest pulp. From thence the pulp goes on to a metallic sieve, which has a rapid oscillatory motion, with a stream of water pouring upon it the whole time, washing the starch from the pulp while the other constituents of the potato pass off the end of the sieve into the stream below. The water which pours through the sieve, and in which is held the starch, runs off into large vats in a mill, twenty feet square and six feet deep. When these vats are full, the water is drained off and the starch remains at the bottom, some four inches deep. The starch is then shoveled over into two smaller vats, clean water pumped in, filling them full, the whole stirred up by machinery, and, when the starch is completely mixed in water, it is left again to settle. After it is settled, the water is again drained off, and the starch remains perfectly pure and clean. It is then shoveled up, taken on wheelbarrows over a long passageway to the attic of the dry-house, where it is spread over a large platform, made of slats with openings an inch wide between them, so that the heat from the furnace below comes in contact with the starch. As it dries and crumbles, it falls through upon other platforms below, and so through a succession of similar platforms until, in the course of twenty-four hours, it comes out twenty feet below, perfectly dry and ready for barreling. When the starch is ready, it is put up into casks, holding some over five hundred pounds each, and is ready for shipment. In barreling it, one man gets into the cask and treads it down, while another shovels

the starch in. A cooper stands by to put in the head, make it secure and drive the hoops. In from twenty-four to thirty-six hours after the potatoes are dumped into the cellar, the starch is ready for shipment. The annual length of the season for starch making is about ten weeks, that is from the 1st of September to the middle of November.

STARCH POLISH.—A comparatively new article, which has been brought into demand by the refinements and improved taste engendered by civilization. It is specially intended to give a glossy finish to starched goods, and is usually made from the following ingredients:—Starch, White Castile Soap, Paraffine, Borax and White Wax. Another variety is made from spermaceti, white wax, castor oil, mutton tallow, borax, salt, gum arabic and isinglass. Either of these articles impart a high finish to the goods, and to a certain extent, preserve the fabrics on which they are used.

STOVE POLISH.—A preparation, the groundwork of which is or should be, either graphite or black lead; but unhappily it is so enormously adulterated in all its stages of preparation that the grocer can place but little reliance on its genuineness, with a very few exceptions. It is sold in powder, rolls and sticks, and is used for polishing iron-work generally.

STRAWBERRIES.—One of the most delicate and luscious fruits of which the United States can boast. It is a native of North America, and grows wild in several of the States; but the cultivated article is so greatly improved, and the demand for it so great, that a large number of new varieties are constantly being introduced from the seed. As an article of food, it is very wholesome, the best known varieties being "Wilson's Albany," the "Monarch of the West," the "Agriculturist," and "Hovey's Seedling." The eastern markets are chiefly supplied from New Jersey and Delaware, while the western markets rely for their supplies on Illinois and the Lake shore. Large quantities are annually canned and re-shipped from California, and sent to every known locality on this continent and in Europe.

SUCCOTASH.—This is an old friend under a new name, and finds great favor in the Southern and Western States, and is rapidly gaining ground in the Northern and Eastern sections of the Union. The dish from which it obtained its name (borrowed from the native Indians) differs considerably from the modern preparation, and is made on the following plan:—A number of ears of young green sweet corn, shaved from the cob, shucked and silked, and the inside of the kernels taken out, are placed in a kettle with a small quantity of water, and allowed to boil for a little over a quarter of an hour;

they are kept well-stirred; salt, pepper, butter and sweet cream (about half a tea-cupfull) added, and they are then prepared for the table.

SUGAR.—The cultivation of the several descriptions of Sugar in the tropical and semi-tropical sections of the world, and its influence not only on the vast industry which has arisen in the United States during the last century, but on the future interests of that commerce of which it forms so large a portion, is a problem of vital and urgent importance to every citizen and merchant in the civilized world, and one which demands our immediate and serious attention. The fact that it is an indispensable necessary of existence in every community, and that sugar more than any other commodity has been made a subject of speculation, manipulation and even gambling to such an extent as to jeopardise the commercial standing and safety of both grower and merchant, and that every department of the sugar interest is more or less paralysed, until a fundamental change is made—these facts fully justify us in asserting that a speedy and utter revolution must be made at once, and the personal interest of all parties interested in its cultivation must be permanently secured, if we desire to avert the annihilation which so imminently threatens to overwhelm grower, shipper and grocer in one irremediable wreck. *Sugar*, like *starch*, is to be found in almost every animal that breathes, and every plant that grows, in greater or less proportion. At the commencement of the present century, neither the beet, the maple, nor the sorghum were considered as probable or even possible, adjuncts to our sugar supplies. Our communities increased in numbers, and the demand for a better supply, both as to quality and quantity, increased in the same proportion, but this only opened the door to wholesale adulteration, and the introduction of worthless substitutes for *genuine* sugar. And even in this matter, the worst and most inveterate enemies to the restoration of the sugar trade to its legitimate and natural condition were the grocers themselves—in making a “decoy” of the article, and selling it *at or below cost*, for the purpose of coaxing or increasing trade—thus giving substantial encouragement to the professional adulterator, and ruining the *honest* retailer who persisted in his efforts to do a legitimate trade at fairly remunerative prices. The experience of the past two years in the “Grocers’ Associations,” and the encouraging success of their efforts to put down the fraudulent practice of selling “sugar at cost,” has shown them what can be done by united and earnest effort. We are persuaded that the great and only lever which will restore the “sugar trade” to its proper position, and enlarge the area of commercial profit by adding the “sorghum” to our other sources of supply, will be the “Retail Grocers’ Associations,” in enforcing their avowed policy of acting honestly and fairly in all things.

The sugars of commerce consist only of two kinds—the “*Sucrose*,” which includes the ordinary “*cane sugar*,” and that made from the beet, the maple and the palm. The second is called “*Dextrose*” or *glucose*, and variously known as grape sugar, starch sugar and fruit sugar, and made from almost everything having starch or woody fibre, acted upon by strong sulphuric or muriatic acid. It is chiefly manufactured from potatoes and corn, roots, wood, paper and even rags being added, and is largely used as a substitute for sugar in syrups, confectionery, and home-made or fruit wines. There are at least sixty establishments in Germany, whose sole business is the manufacture of sugar from the potato and similar vegetables, the annual produce of which is nearly 80,000,000 pounds of sugar and syrup.

The cane sugars grow luxuriantly in Louisiana, West Indies, Central America, along the entire coast of northern South America, the Brazils, throughout large portions of Asia, the East Indies, and large portions of the Chinese and Tartar territories. The raw sugar, after the molasses is extracted, is not sent as it used to be some years since, direct into the market as Muscovado, clayed sugar, etc., but is transferred to the great sugar refineries, from whence it issues in the shape of “*Powdered*,” “*Granulated*,” “*Standard A*,” “*Extra C*,” “*Extra Yellow C*,” “*Cube*,” “*Cut Loaf*,” “*Crushed*,” and “*Pulverized*” (frosting) sugars.

For the production of “*A*” sugar, the loaves, while still quite moist, are placed on a cutting-machine and shaved fine. The shaved sugar is then carefully dried, and the powdered portions sifted away, the remainder being sold as *granulated sugar*. At other times the loaves are dried in hot-air chambers, broken in a crushing-machine, the product separated by sifting, and respectively sold as *powdered* and *crushed* sugar. The dried loaves are also sometimes cut into *cubes* and sold as *cube sugar*. The mother liquor, after being drained and set in moulds, is converted into a sugar of light buff color, and known as “*C*” sugar. The residue of the mother liquor, known as “*green syrup*,” having been collected from the various vacuum pans, is transferred to the centrifugal machine, and its operation results in the production of a dark sugar, called “*X*” or yellow sugar. The balance of the syrup is again diluted, filtered and concentrated, when it is sold as “*golden syrup*.”

Loaf “*A*,” and other white sugars when dry, are pure *cane* sugars, divested of all foreign elements; “*C*” sugar contains about ninety per cent. and yellow sugar a little over eighty per cent. The sugars and syrups manufactured in the northern United States, are, as a rule, obtained from the “*sorghum*” sugar cane. *Maple sugar* and syrup never enters the refinery, for the reason that the peculiarly delicate and pleasant flavor it possesses would be entirely destroyed by the refining process.

More than one-third of the sugar manufactured in every country is made from the *sugar beet*, of which there are several varieties cultivated—the European nations (England excepted) depending almost entirely on that source for their supply. The manufacture of beet sugar has been in existence for about three-fourths of a century. Good beets contain about ninety-six per cent. of juice, twelve per cent. of which is cane sugar. In the East, large quantities of sugar are made from various species of the palm-tree, made in a similar manner to the maple, that is by tapping. It is of a dark color, but agreeable taste, and is known by the name of *Jaggery*. The importations of foreign sugar into the United States are nearly all raw, and amount annually to about 1,000,000 tons; the exports of refined sugar reaching 30,000 tons; and the consumption to nearly 1,000,000 tons, or about forty-seven pounds per head.

SUGAR-HOUSE SYRUP.—This precious compound is vulgarly termed “black-strap,” the produce of the process of boiling out the residue of the crystallizable sugar from molasses. It is a thick, dark mass.

SULPHUR.—A substance produced extensively in Sicily, Iceland and California—the latter place furnishing all the supplies of that article necessary to manufacture the “Oil of Vitriol,” which is one of its staple products. Its chief use, under the name of “Brimstone” of commerce, is in the manufacture of matches. In its refined form as “Sulphur,” it is employed to a great extent in medicine, as a liquid for the destruction of insects, in bleaching processes, and in the production of sulphuric acid and gunpowder. It is also sold in the powdered form by chemists, as “Flowers of Sulphur,” and used as a remedy for cutaneous diseases, both in men and animals.

SWELLS.—In our article on “Canned Goods” we have referred to the frequent occurrence of “Swells,” and its probable cause. It requires constant vigilance on the part of the packer to prevent the disastrous results which inevitably follow, viz., the decomposition of the contents from fermentation. The fermentation may be either *alcoholic* or *acetous*, and produces carbonic acid gas and alcohol, which, acting upon the contents by producing putrefaction, and upon the metal can by creating a virulent poison. The only advice which can be given to the packer is, that he make sure that his cans do not leak.

SYRUP.—As observed in our description of Sugar, this is the liquid drawn off from the refined sugar, and is brought to the condition in which it is sold by a filtering process through charcoal—its light or dark color depending entirely on the amount of impurity it contains. The substance known as *Treacle* is derived exclusively

from can sugar, and the "Syrup" of the store should be only a purified form of treacle. But this is the case with a very small portion of that in the market, as that is generally a starch syrup containing lime, sulphate of iron and pure sulphuric acid—the result or residue of the process used in making glucose. An analysis recently made of a score of *syrups*, obtained from as many different establishments, resulted in the following finding:—Only *two* specimens were made of pure cane sugar, the remaining number were more or less sophisticated with deleterious and even poisonous ingredients, in greater or less quantity.

TALLOW.—A substance manufactured from the melted fat of various animals, but chiefly beef fat. It is produced in all countries where animal food is consumed, and its quality and condition, which is very variable, depend entirely on the care taken in the rendering, the state of the material when made into tallow, and the precautions taken to protect it from the action of the air in the course of transit. Its principal use is in the manufacture of candles and soaps and for softening leather.

TAMARINDS.—The tree bearing this fruit is cultivated in all warm climates. The fruit, as it reaches us, including both the juice and the pulp, is imported in kegs containing fifty pounds weight—the repacking into jars being done here. It makes a very pleasant and useful beverage; the effect being slightly aperient, it may be drank in warm or cold water; it also makes a delicious preserve. It has recently been offered in various attractive forms as a medicine, and as a suitable vehicle for taking numerous draughts.

TANKS FOR OIL.—Cleanliness, economy, convenience and preservation of stock should be the first care of the storekeeper, and in no possible way can he so effectually secure these desirable ends as by the use of the cheap and durable oil tanks which are now placed at the service of the trade in all our cities. They are so ingeniously contrived that there is no possible waste or dirt, and a large amount of space and waste of time is avoided.

TAPIOCA.—This useful and necessary article of food is manufactured from the prepared roots of the mandive plant, which is subjected to a process of cleansing and pressure by which the juices (a deadly poison) is thoroughly expelled, leaving behind only the dried fibres of the root, which is then wholesome and nutritious, and from its peculiar properties cannot easily be adulterated or mixed with inferior substances. It is the most wholesome, easily digested and nutritious of all the food-roots presented to our notice, and universally employed in making puddings and other household dishes. The mandioc plant, from which tapioca is made, grows in the West

Indies, South America and Africa. There are three species. The first is the bitter cassava, indigenous to Brazil; it has a large, tuberous root, which sometimes weighs thirty pounds. This root contains a large proportion of starch, which is associated with a poisonous, milky juice. The other two species do not contain the poisonous juice. All are used alike in the preparation of tapioca. The root is well washed, then scraped or grated to a pulp, and this when of the poisonous kind, is thoroughly pressed in order to remove the juice; well washed with cold water and afterward dried, this is the tapioca of commerce, sometimes called Brazilian arrow-root.

TARE.—This is a term used to designate the deduction always made by the merchant to the retailer from the gross weight of the goods, to compensate for the weight of the package, and other losses liable to occur during transit. There are three kinds of tare, viz: *Actual, Estimated and Average*. The *actual* tare is when each package is weighed on its own merits and the proportionate deduction made. The *average* tare is taken by weighing a few of the packages and deducting a given average amount for each. The *estimated* tare is when the weighing is dispensed with and a certain amount deducted for the *supposed* weight of the package.

TARTARIC ACID.—This chemical agent is the crude product of the encrustation found inside of wine casks—the *Cream of Tartar* [which see] being a prepared product of the argol or tartar, of which the before-mentioned crust consists. The tartar is dissolved in hot water until the effervescence ceases and the acid only remains. Its chief use is in dyeing, but it forms a part in the manufacture of all the baking powders [which see]—and, when combined with bicarbonate of soda, is a refreshing and effervescing summer beverage.

TEA.—More than a century before the celebrated “Boston Tea Party” assembled on the shores of the Charles River the tea plant flourished, and its fragrant, aromatic leaves were looked upon as a priceless treasure, and a luxury only to be enjoyed by the most wealthy of the land. So early as the year 1657, it was scarcely known, except to its originators the Chinese; and prior to that period we look in vain for any record of its introduction or its use. Even in Europe, where its existence was first made known, it was not heard of until the early part of the sixteenth century; but since that period, tea has caused more excitement and heart-burnings in one way or the other, than any other article holding a place in the long list of American or English importations. Notwithstanding the various long-named descriptions of tea—both black and green—which invite the attention of the consumer, there is but one species of the tea tree—the only difference in quality or flavor being ascribable to a slight variation in the soil, climate or growth, in the age

of the picking (whether old or young leaves), and in the preparation for consumption. The distinction between black and green color of the teas are not due to being taken from different varieties, but to the method in which the leaves are treated.

The tea plant is very prolific, there being as many as four harvests in the year. The first picking of the young plant occurs in April, the buddings being very choice in character, and realize very high prices, but the produce is never imported to this country; it is specially retained for the use of the chief mandarins and millionaires of the Chinese empire, a small quantity being also sent overland to Russia. The second picking commences in May, from which the finest selections sold in the United States and European markets are obtained. The leaf is very carefully picked by skilled experts, who pick about ten pounds per day each—each leaf being picked separately and very delicately handled, as they are extremely susceptible of injury—and subsequently these leaves, notwithstanding the care exercised, are subjected to a second sorting, the bruised or damaged leaves being all rejected or transferred to an inferior class. This second picking is known as “first-crop tea,” and includes the descriptions bearing the names of the finest Young Hyson, Gunpowder, Congou, Souchong and Oolongs. At a later period, June or July, the third crop is gathered, of which the more matured leaves form the greater portion, and the vigilant selection as to bruised or defective leaves is not maintained, consequently they contain much more tannin, are of a more astringent and harsher character, and the infusion has a less delicate aroma, and much more bitter. As the weeks and months go on, after June or July, various small gatherings are made, but each successive picking is inferior both in taste and quality, and the preparation is neither so carefully conducted, nor accurately carried out as in the second and third crops.

The special processes to which the leaves are subjected, in order to obtain the black and green varieties, are fully explained in Johnston's “Chemistry of Life,” some of the facts related we hereby briefly subjoin:—In the process of drying, the leaves are roasted and scorched in such a manner as to necessarily effect many chemical changes in them, resulting in the variations of flavor, odor and taste, by which the several varieties of tea in the market are distinguished. The distinction between the *black* and *green* varieties are due solely to the mode in which the leaves are treated, the black undergoing a sort of fermentation before drying; while the green are submitted, immediately after gathering, to a high temperature in iron pans. The manufacture of black tea closely resembles haymaking. The leaves are placed in heaps and allowed to ferment for a given time, which imparts to them a dark color, and they become flaccid. They then undergo the manipulation of the twisters, who either twirl them between the thumb and forefinger, or rub and roll them with the hands on a

table of split bamboo, until the operation is completed. The leaves are then taken to the drying-room, and heated for some minutes in an iron pan; after which the twisting operation is repeated; and they are subsequently put in wicker cylinders and dried on a slow fire—the process being repeated several times until they are black and crisp. In the manufacture of green teas the leaves are placed, immediately after picking, into firing pans, over charcoal fires; and after a short time are removed and subjected to the operation of the rollers, who roll them in the different forms in which they appear on the market. They are again put on the fire for drying, and the operation is repeated until they become dry and crisp, when they are stowed away, either for home use or for the market. The green teas of commerce are artificially colored by turmeric powder and a mixture of gypsum and Prussian blue, or of gypsum and indigo. Some of the teas are flavored or scented, by placing among the leaves during the several stages of preparation, the aromatic flowers of certain plants.

Among the tea-producing countries, China comes first in rank, Japan second, and India (which promises to outvie each of its oriental neighbors, although the culture of tea did not commence until 1836) is third. Then come Java, the island of Ceylon and Brazil, in the order named. California could well, and possibly may, become a prolific tea-producing State, if it can only overcome the difficult question of labor.

Tea is certainly the foremost of all beverages, in reference to its invigorating and restorative qualities. It has a remarkable influence in diminishing the daily waste or disintegration of the human tissue; therefore, if the waste is lessened in any degree, the necessity for food to repair the waste will be proportionately diminished,—in other words, by the consumption of a certain quantity of tea, the health and strength of the body will be maintained in an equal degree upon a smaller quantity of food. Tea, therefore, saves food—stands to a large extent in its place—while at the same time it soothes the body and enlivens the mind.

GREEN TEAS.—Some time since the English government passed a law prohibiting the importation of *faced* green tea—and that action naturally made this country and Canada the only outlets for the numerous vile concoctions of which the Chinese and their darker-skinned neighbors, the Japanese, have shown themselves only too capable in manipulation. Faced tea is easily detected by connoisseurs, as it has a blueish hue, and when drawn has a collection of scum of the same color on the top of the liquor.

Gunpowder should be round, like small shot, with a delicate bloom which will not bear to be breathed upon, has a greenish hue,

and a fragrant, pungent taste. It is of a dark green color. This kind of tea is often adulterated by inferior kinds, artificially colored, glazed and manufactured to look like the gunpowder with which it is mixed. When the leaf is opened and loose, the outside of a darker shade, and the taste metallic and unpleasant, it should be rejected.

Imperial is very similar to Gunpowder, only more loosely rolled and coarser.

Young Hyson is divided into two distinct kinds, *Moyune* and *Ping Suey*. *Moyune* is usually packed in half chests, *Ping Suey* in boxes. *Moyune* does not possess the same good make and handsome regularity of leaf for which *Ping Suey* is noted, but it is finer in flavor, drawing a rich, mellow and delicious liquor. *Ping Suey*, not being so fine, is more bitter and coarser. *Moyune*, *Hysons* and *Gunpowder* are much less subjected to adulteration than the other green teas.

Old Hyson is similar in character to *Young Hyson*, but is much larger and more irregular in leaf. It draws a good liquor, but its color and style does not recommend it when sold by itself. It is usually employed for mixing with black teas, and gives a good body to teas sold at more moderate prices. Some of the *Old Hyson* is simply the true hyson, rather aged, and after repeated drying and freshing up, is sent to the market a second time.

Twankay consists of the broken and mixed leaves, and is of an inferior quality. It is a more unsightly tea than hyson, with larger, yellowish, badly-rolled leaves, and is ranked by the trade among the cheapest of the Chinese and Japanese greens, though occasionally some good parcels may be had. It is very seldom retailed by itself. The infusion is of a deep yellow color, and clear, sharp taste.

Japan furnishes us with both colored and uncolored green tea—the greater proportion being colored and subjected to considerably more adulteration than Chinese teas. They have an agreeable odor, and in the cup Japan tea should be of light color and fragrant; the better qualities having a mild and pleasant taste.

BLACK TEAS.—*Oolongs* are very highly dried, of wiry, brittle leaf, and valued according to the degree of strength and pungency and freedom from dust, and are divided into three distinct classes, according to the localities and district of their growth, viz., *Formosa*, *Foochow* and *Amoy*.

The *Formosa Teas* are rapidly rising in public favor, and will, without doubt, shortly become the leading black tea in the market. Though ranked in this country under the head of Black Tea, it would be more correct to grade it between the uncolored green and the black teas of India and China—the liquor decidedly resembling that of the uncolored greens. *Formosa* and *Foochow* rank first in quality and

arema, the latter possessing a more distinctive flavor, while all the commoner grades may safely be classed under the Amoy kinds. The finest is free from stalk, fine twisted leaf, and of delicate flavor and full strength. The *Formosa Oolong Tea* is the most satisfactory article where fine taste is consulted. The aroma and flavor are vastly superior to any other kind of tea, with the exception of the early-picked Rose Leaf Japan; and for body and strength it far exceeds all other varieties. It is susceptible of reduction in strength to a larger degree without destroying the flavor, and is the only tea that furnishes a satisfactory second dressing.

SCENTED TEAS—Are chiefly divided into Foochow and Canton, the Foochow being the highest scented, but generally drawing a weaker water. Those from Canton draw a good, deep liquor, and are strong and rough to the palate. These two teas are chiefly used by the manufacturing classes of England and America. In all scented teas those are considered the best which have an olive color, and the infusion a bright green.

Scented Orange Pekoe is a long leaf tea, well twisted. One particular brand of it is termed "spider-legged," from the length of its leaves. The *small-leaved Orange Pekoe*, known as *Ouchain*, draws a darker liquor than Foochow, and is in some cases quite as delicate in flavor.

Scented Caper is, in appearance, much like Gunpowder, only black instead of green. In character it is like Pekoe, but slightly different in flavor. About twenty years since, this tea got into great disrepute, owing to the method in which it was made. By collecting the dust of other teas, and adding gum and steel filings to it, they were able to make a pretty-looking tea by strongly facing it with black lead; but the public taste is now so opposed to faced teas of any kind, that dealers who know anything of the trade resolutely reject everything with facing on.

Congou is really the black tea of China, and is commonly known in this country as *English Breakfast Tea*, which is in reality mis-called, as all descriptions of tea are sold in England, and they seldom sell any particular brand by itself—the English being great adepts in mixing and blending, so as to suit the tastes and palates of their customers in different parts of the country. In fact, blending tea is considered in England as one of the *fine arts* of the trade. *Congou* comprises the following brands: Moning, Kaisow, Souchong and New Make. *Moning* is again subdivided into Ning-Chow, Oopack and Barfa, the quality ranging in the order as named. *Kaisow* is subdivided into Ching-Woo, Panyongs and Saryquues. The Ning-Chow and Ching-Woo, of both Moning and Kaisow kinds, are the purest and finest teas imported from China. *Souchong* is a strong, black

tea; the leaves are large, rough, and often broken. The infusion is clear and aromatic.

Java Tea is very similar in character to some of the varieties grown in British India. With a little more care in the drying and manipulation of the *Java teas*, the consumption cannot fail to increase.

Most of our tea trade with China is carried on from the ports of Shanghai, Foochow and Amoy. The annual importation into the United States aggregates about 70,000,000 pounds, which would give about one and three-quarter pounds to each person in this country. Of this amount Japan tea takes the lead. Tea prepared for shipping is more highly fired than that for home use—that coming across the Pacific being generally superior to that from other routes. The tea sent overland to Russia is usually in the form of bricks. It is made by mixing the dried leaves with some glutinous substance, putting it in moulds, and drying it in an oven. Tea as generally exported is packed loose in wooden chests lined with sheet lead. Tea dust has of late years made its appearance in our markets, but it cannot be recommended, either for cleanliness, purity or quality.

In the steeping of tea the amount should be regulated by weight, as the bulk and weight are not reconcilable. A given bulk of Gunpowder is three times heavier than Oolong. Soft water is much preferable to well water, and the water used should be newly boiled. The water should be applied to the tea while boiling, and the tea allowed to stand for five minutes, when it may be served. Black and Japan teas require more steeping to extract their essential qualities than green teas. In this country sugar and milk are generally added; in Russia lemon juice is used; but in its native country, the tea is drank clear.

The *Tea Trade* has long been known as one of the most speculative in existence. It has puzzled the cleverest merchants and tea-tasters in China to make anything like a sure forecast as to the run of the markets, and at the last moment the most careful calculations are liable to be upset by some unforeseen circumstance.

INDIAN TEAS.—Indian Teas, though principally drank in Ireland, are rapidly making their way into this country, and therefore deserve a passing mention. They are broadly divided into three classes—*Pekoe*, *Pekoe Souchong*, and *Congou*, each of which are distinctly characterized by perfect purity, and entirely free from the artificial means used in China and Japan to give color, fragrance, strength and flavor to the leaf, nor are they put through the same mode of drying and curing. They rely entirely upon their natural strength and flavor for their popularity. Not being subjected to artificial flavoring, their differences, though perhaps greater in variety, are neither so distinct in flavor or character, which accounts in some

measure for the comparatively small parcels of Indian teas as compared with China and Japan. Any attempt to classify these teas, therefore, under the same heads as those of China and Japan, would be unjust both to the tea and to the dealer.

The *Indian Pekoe* is the finest, being both perfect in the leaf, absolutely pure, and of fine, rich flavor and full body. The rich *Pekoe* tips add considerably to its appearance. *Pekoe Souchong* is not nearly so well made a tea, being larger in leaf and altogether rougher in appearance. In the cup there is not so much difference. Some parcels draw a remarkably fine liquor, both for strength and flavor. Congou does not form any large extent of the production in India, and comes nearer in character, though not in appearance, to the Congou of China.

TESTING TEA.—The first essential in this important operation is a sensitive, unvitiated palate on the part of the taster—persons habituated to chewing tobacco or drinking spirituous liquors, are utterly incapable of acquiring the excessive delicacy of taste necessary to proper judgment of the peculiar qualities of this herb. The only other necessities, a druggist's balance, a ten-cent piece for a weight, a small gas-stove and kettle for the boiling of water, and a dozen small china cups of equal size.

TEA CADDIES.—There are various descriptions made in this country, in imitation of the original Japan and Chinese chests; they are made in all sizes and shapes, and may be made a source of considerable convenience and profit to the grocer.

TIL TEA.—Is a special description of tea made in China, in the form of a *brick*, and chiefly sold to the Tartars, Armenians and Russians inhabiting the Asiatic and more northern territories. The method of its preparation differs considerably from that of ordinary tea, being stewed with milk, butter, salt and herbs, and partaking more of the character of an article of diet than of a beverage.

THYME.—A herb used chiefly for seasoning of meats, soups and various dishes. It is largely cultivated in Europe, but not in this country—the supply being wholly imported. Its odor is agreeable, pungent, strong and penetrating.

TIERCE.—A cask containing in liquids about forty-two gallons or one-third of a pipe—the regulation-quantity of which is one hundred and twenty gallons. The word tierce is also applied to casks of a similar size used for packing lard, rice, hams, etc., but has no reference to the measurement of its contents.

TIN CANS.—Almost every article of a fluid or semi-fluid character, and those liable to deterioration from exposure to the air, is packed in tin cans, the cost of which has been reduced to an almost

nominal rate by the introduction of machinery in their manufacture—indeed, their cost may be said to be more than counterbalanced by the saving effected in the prevention of waste and leakage.

TOBACCO.—Tobacco, in all its forms, is now as much a necessary and staple article in every grocery store, as tea or sugar. It would be needless for us to describe the process of manufacture, as that is well-known to every one, whether connected with the trade or not. Whether it be in the form of cigars, plug, chewing and smoking tobacco or snuff, a constant and fresh supply should always be kept in stock, and sold at a moderate rate of profit. Cheap or inferior stock should always be avoided, for if the grocer confines his sale to the *best brands*, he will be able to give satisfaction to all classes of his customers; sell quite as cheaply as any cigar dealer can, and at the same time realize a *fair profit*, say from twenty to thirty per cent. The sale of the lower grades of quality will not add either to his reputation nor to his receipts, and will certainly repel the better class of customers.

The distinctive and valuable properties of tobacco are found mostly in the leaves, for which the plant is cultivated. The oil distilled from tobacco, and called tobacco oil, is a virulent, deadly poison. In the process of manufacture, the leaves are partially fermented before drying, resulting in the development of a powerful aroma, with strong narcotic and acrid properties. After it has been cured, it is dried and shipped—which operation can only be performed in damp weather. In a crop of tobacco there should be four sorts—second, bright, yellow and dull—which are of course tied into bundles and kept separate for convenience in bulking. The best time for packing is during the mild, pleasant weather of spring or summer. It is generally packed in hogsheads, the brand and grade being usually marked and certified by a State inspector, on the head of each hogshead or package. They vary much in size and weight; in Virginia and adjacent States, the hogsheads contain from two hundred and fifty to twelve hundred pounds each. The inferior growths of Maryland, consisting of stems, lugs, etc., packed for export, weighing from six hundred and fifty to eight hundred pounds per hogshead. Western tobacco reaches fifteen hundred pounds, or more. Leaf tobacco is also packed in bales of two hundred and fifty pounds weight for export, and manufactured tobacco in cases of the same average weight. Lugs are the lowest quality of tobacco exported, and consist of stems, strippings and broken leaves. The best full leaves are commonly packed as wrappers, and usually bring the highest prices. Manufactured tobacco, as it is called in the trade, is specially distinguished from both the whole leaf and cigars or muff, and is usually made from inferior or defective leaves; they are piled one upon the other, and then cut in a machine, similar to our straw or

chaff cutters, worked by horse or steam power, which can be regulated to cut the leaf either coarse or fine. The dark leaves, after being cut, are rendered still darker by the addition of syrups and licorice, subjected to additional pressure, and finally labelled, cut into blocks and cakes of various forms and sizes, and christened by various fancy and attractive names, such as adorn the price-lists of the NEW ENGLAND GROCER. The better sort of leaves are spun into rolls of different sizes; what is known as Negrohead, consisting of large, coarse rolls, weighing from six to eight pounds. Pigtail is also spun, but is made into fine rolls about the size of a pipe-stem—all of these being rendered palatable by the addition of sweetening. The outsides of these rolls are wrapped round with whole leaves. The style of plug known as Cavendish is first cut by machinery, and being softened and flavored, is, by powerful pressure, formed into cakes, packed into oak boxes or caddies, and sent to market. It is used both for the purposes of chewing and smoking. The names Cavendish, Navy-twist, Negrohead, etc., are standard names or brands by which the different forms of solid or pressed tobacco are known. "Fine-cut" chewing is shredded and loose, and cut by delicate machinery from the better qualities of leaves, flavored by sweetening. In fine cut, the length of the shreds and a bright color, are tests of good quality. Smoking tobacco is made of all grades and styles, but mostly from stems, broken leaves, and other inferior parts. In the trade the numerous styles and names are constantly changing—Killikinneck, Cut Cavendish, and the common cut leaf, embracing most of these classes. For these kinds of smoking, the tobacco is either granulated in a mill or shaved in a fine cutting machine. Most of the operations in the manufacture of tobacco are done by machinery. *Shorts* is a name given to the siftings of tobacco, and is used both for smoking and chewing.

SNUFF—Is manufactured from the leaf-stalks and leaves of the tobacco, combined with leaves of other plants, rosewood dust, salt, and various drugs. The material is well dried before being ground into powder, which is effected by mills constructed for the purpose. In the earlier half of this century, snuff was made by grinding the tobacco in small mortars, the pestles of which were moved by machinery. The standard branches of snuff in the market are the Maccaboy (originally from Martinique and Spain), Rappee, a French variety, and that known as Scotch snuff. The revenue tax on manufactured snuff is twenty-four cents per pound. Though snuff is so largely adulterated, there is but little adulteration in manufactured tobacco, except possibly in the poorer descriptions of smoking. The internal revenue receipts on all descriptions of tobacco, amount annually to more than \$47,000,000. Most of our exported tobacco goes to Germany and the Low Countries; the next in order to precedence being England, France, Italy, etc.

Bremen and Liverpool are the greatest general tobacco markets in Europe—the United States producing considerably more than half of the tobacco consumed in the world. The average annual crop of the United States exceeds 550,000,000 pounds. The production of Cuba is of a superior quality, and is almost wholly consumed in the manufacture of cigars, either at home or abroad. One of the best tobacco-growing districts in the United States is Virginia, where the seed is sown about the first week in January, and the plants are transplanted from the seed-beds about the beginning of June to the end of July—this operation only being performed in wet weather. The crops require great care in being kept clear of weeds, and when the flowers-buds appear they have to be nipped off, otherwise the plant would be much weakened; but in Turkey and Greece, where the small leaves are preferred, and especially in the more select classes of tobacco, such as the celebrated Latakia brand, both leaves, buds and flowers are used. Tobacco is usually cut at mid-day, when the morning and evening dews are absent, and the sun is at its full strength. The cutting is always done by hand, and only such plants selected as are fully ripe, which is known by a sort of glutinous exudation covering the leaf and giving it a spotted appearance. The government of the United States exercises a very strict surveillance over the weight and quality of all tobacco grown and cured within its jurisdiction. A large tobacco export has been carried on by Paraguay during the past ten years; the quality, though fair and steadily improving, is not equal to the State-grown tobacco; it is packed in linen bales. The quality of Turkish tobacco is very peculiar; small in the leaf and of a light color—bright yellow, yellowish-green or yellowish-brown, and, being extremely mild, is a great favorite with a large class of smokers.

The advantages or disadvantages arising from the use of tobacco have always been a great and exciting subject of controversy—many of its opponents asserting that its use is more productive of injury than even alcoholic beverages, while others make equally positive assertions of its beneficial influence. Dr. Richardson, however, in a pamphlet recently published, has chosen the happy medium, in which, usually, truth can only be found. He says, “Before the full maturity of the system is attained, even the smallest amount of smoking is hurtful; subsequently the practice is only hurtful when carried to excess. We cannot honestly say more against tobacco than can be urged against any other luxury, it is the least injurious. It is innocuous as compared with alcohol; it does infinitely less harm than opium; it is in no sense worse than tea; and by the side of high living altogether, it contrasts most favorably.” The evil is greatest with chewing, smoking next, and snuffing last. Tobacco is used to a slight extent in medicine.

TOLU.—This is a balsam or gum obtained from a tree cultivated in South America. It has a fragrant odor, is of a pale brown color, and dissolves readily in spirits. It is the foundation of the combination sold by liquor dealers, and known to the trade as “Rock-and-Rye,” and is also used by confectioners in various cough candies.

TOMATO.—A plant native to tropical America, and largely cultivated both in this country and Europe. It is called by some Love Apple, and the fruit is eaten both raw and cooked. They enter considerably into the manufacture of soup, sauces and pickles; and, during the last ten years, an extensive trade has been developed in them as “Canned Goods.” The varieties in cultivation are very numerous, especially in the northern United States—the fruit season being at its height in August and September. Large quantities are also brought from the West Indies in May and June. The best kinds now in cultivation are the Canada Victor, Trophy and General Grant, but new and excellent varieties are constantly being added. Besides being used as an article of diet, it is considered as an efficacious remedy for dyspepsia and indigestion.

The process of canning is a large and profitable industry. The tomatoes are first scalded and taken to the factory in wooden pails, where a small army of women are employed in paring them, and, at the rate of five cents a pail, earn very fair wages. After critical inspection they are passed through a funnel-shaped machine into the cans, having been cut into pieces on their passage. The contents are subjected to a slight pressure, and a portion of the juice poured off, when the tops are carefully soldered on the cans; they are then conveyed to the “bath room,” where they are placed in vats of water heated by steam, and slowly cooked. After this they are allowed to cool, carried to the storehouse and labelled.

TONGUE.—Tongues are procured from several animals, but chiefly from the ox and calf, and are, without doubt, the most delicate and tenderest meat used for food—those with plenty of thick, firm fat on the under side being usually selected. They are extensively canned, and many of the best brands are quite as good, both in quality and flavor, as when bought and cooked fresh. “Lunch tongues” are generally pig tongues, canned in western markets. “Compressed tongue,” as its name indicates, is subjected to pressure, either before canning or during the process. Dealers should never sell any canned goods of meat, tongue or fish, during warm weather, without reminding the buyer of the necessity of thoroughly cooling it before cutting it open.

TONQUA BEANS.—These productions are natives of South America, are aromatic in odor and strong in taste, and chiefly used in perfuming snuff and scenting clothes, having the peculiar property

of preventing the incursion of moths and other destructive insects. The essential oil obtained from them is employed in the manufacture of toilet essences.

TRICHINA.—These small parasites or worms are found in large numbers in pork and in dried raw or partly-cooked meats, used by Germans in the form of smoke-dried sausages, with whom they are a favorite article of diet. After entering the human system they breed very rapidly, pass directly through the walls of the intestines, and bury themselves in the muscles and tissues, causing various diseases similar in character to diphtheria, membranaceous croup, etc. The young are almost invisible to the naked eye, and exist in extraordinary numbers in the smallest possible compass. More than twenty millions have been discovered in a single person. Thoroughly salted meats are free from them, and they do not survive a certain temperature, and death renders them harmless; but even in cooked meat, say in the centre of an ordinary joint of meat, the temperature is not sufficient to ensure the entire destruction of the parasite. In fact trichina would escape almost entirely the action of boiling water in cooking.

TRIPE.—An article of food prepared from the stomach and intestines of the ox and cow, with the fatty structure adhering to them. It is prepared by thoroughly cleansing them from all impurities, and gently boiling them in water for an hour. It is easy of digestion and agreeable in flavor, and is eaten both fresh and pickled. When dark or thin, the quality is invariably poor.

TROUT.—A fish of the salmon family, varying in size from twenty-four to sixty inches in length, spotted on the back and sides, and the under part of cream color. These are called Great Trout, and weigh from five to one hundred and twenty pounds, and are known by the name of Mackinaw trout. They are found in the deep waters of our lakes, and are taken both by net and hook. They are, to a great extent, eaten fresh, and are canned in that condition, and considered a great delicacy. They are also salted and packed in barrels, in a similar manner to the mackerel. The Speckled or Brook Trout, found in the clear streams of northern North America, are from six to twenty inches long.

TRUCK.—This is a term applied to a low barrow or team, driven by hand, and is chiefly used by grocers and other traders in their local custom, for moving their goods about their own premises, and to customers in the immediate vicinity of their store. The term is also used in the middle States to designate all vegetables or fruit, which is called "Garden Truck." A Truck farm is one entirely devoted to the growth of vegetable produce.

TRUFFLES.—The general name of a species of fungi, not generally grown in America, but plentiful in Europe; and, from its extremely agreeable flavor, much sought after as an article of domestic cookery, and usually eaten with poultry and rich meats. It is only from six to twelve inches below the surface; and in France, where it is especially plentiful, pigs and trained dogs are employed to find them, which they do by scent, the attendants digging them out with a trowel. Truffles are usually found in chalky soils, growing near the roots of oak and other trees.

TUNNY FISH.—These fish are of the mackerel family, and are found in great abundance in the Black and Mediterranean Seas, and also in the Atlantic Ocean. They are usually caught in a net of a peculiar shape, measure from twelve to twenty feet in length, and often weigh more than one thousand pounds. In America it is met with all along the New York coast, and thence northward to Nova Scotia. The flesh is eaten both fresh and salted, and is considered a delicacy. It yields a considerable quantity of oil—as much as twenty gallons being obtained from a single fish, by boiling the head and belly.

TURMERIC.—The Turmeric of commerce is simply certain dried roots reduced to a powder. It is used chiefly as a coloring matter in various preparations for domestic use, and as a vehicle to disguise or admit of adulterations in various articles, such as mustard, spices, etc. It is also used as a condiment with many kinds of food, and is one of the principal ingredients in every powder in the market.

TURNIP.—The Turnip is extensively cultivated in all temperate climates, and used for the food of both man and beast. It is not very nutritious, containing nearly ninety per cent. of water, which renders it unpopular, though it is frequently used with other vegetables in soups. It is mainly used as winter food for cattle. The Swedish turnip or Ruta-baga, is a distinct variety, having an elongated root. There are a large number of varieties both of these and the flat turnip. The best-known varieties are the White Dutch, Yellow Aberdeen and the Loring, and also the improved American Ruta-baga.

TURTLE.—This popular marine animal (for it partakes of the character of fish, flesh and fowl, in almost equal proportions) is highly esteemed for the delicacy and rich character of its meat. Though not found within the waters of the United States, it is imported in large quantities into this country, and is used in the form of steaks, stews, soups, etc. The Green turtle leads all other varieties in the market. It is frequently dried in the West Indies and

sent here in that condition ; and is almost if not quite equal to fresh turtle in quality and flavor, while considerably lower in price. Terrapins or Snappers are a small variety of turtle, much used in soups ; and canned Green Turtle and Terrapin soups, are to be found for sale in all the leading stores of our cities and towns.

ULLAGE—Is a term used to signify the vacant or unfilled space in any cask containing liquids, and of course varies considerably, according to the nature of the goods and the customary practices of the dealer.

VALENCIAS.—Raisins prepared by dipping the bunches of grapes into a warm alkali, made of wood ashes, oil and lime, and afterwards drying them in the sun ; they are used for pastry, while the muscatels, dried on the vine, are the class generally eaten uncooked for the dessert.

VANILLA.—The Vanilla plant is found native in South America, Mexico and the West Indies, but it is only in the wild valleys near the eastern coast of Mexico that the Vanilla bean used in confection and for flavoring chocolates can be obtained. The great valley of the Mazatlan produces it in great luxuriance, and the surrounding region may properly be termed the great centre of supply for the world. The wild bean is only good for perfumery, but is not suitable for flavoring, and realizes from fifty to sixty cents per pound. The French confectioner, both here and in France, use the bean instead of the extract in their preparations. There is an article produced in Germany, imitative of Vanilla, and called "Vanillan," from the common hemlock.

VEGETABLES.—The grocer who undertakes to handle vegetables and fruits without thoroughly understanding them and their peculiarities, had much better leave them alone. Fruits and vegetables give a good margin of profits to those who handle them judiciously, but they prove a certain source of ruin to the ignorant or careless dealer. To obtain the earliest and best supplies from the foreign markets, is of the most essential importance. Fruits and light vegetables should be sold and eaten before the close of the day on which they are marketed, or they will prove unsatisfactory to the purchaser, and a bar on the reputation of the dealer. A large ice chest, with compartments, will be of great service to those who keep fruits and berries to any extent on sale.

VINEGAR.—One of the most useful and frequently needed articles in the long catalogue of domestic wants, and yet but seldom to be obtained—the ordinary article sold being a diluted and impure solution of acetic acid. Acetic acid is the most common of the vegetable acids, occurring in the juices of a large number of plants. Vine-

gar in the United States is made chiefly from cider, although whiskey and other alcoholic liquors are brought into service; and even the refuse maple-sap, too poor for sugar, is boiled down, diluted and made into vinegar. The flavor and quality of the vinegar depends entirely upon the material of which it is made, and the quality and condition of that material—thus wine vinegar is the color of the wine producing it. Of all the sources for the production of vinegar, cider made from sound, ripe, sweet apples by a good process, and without adulterations, is undoubtedly the most agreeable and serviceable description in use.

From the high price of acetic acid, vinegar is frequently adulterated with sulphuric, muriatic or nitric acids, and, in some cases, there is not a trace of acetic acid to be found, the flavor being given by the addition of ether, alum, red pepper, mustard, etc., these adulterations being exceedingly injurious to the delicate organism of the stomach.

WALNUT.—This favorite nut is the produce of a large tree growing on both sides of the Atlantic, though the English walnuts are much superior in size and quality to its American sister, from the fact that the American walnut seldom reaches perfection. Large quantities of the English walnut are imported, and form an important item of dessert, while the young, immature parts of the English and the American walnut, as a rule are generally used for pickling—the green nuts, gathered before the shell has had time to harden, being pickled whole, and very highly prized as a table condiment. The kernel of the nut is very rich in oil, which is much esteemed by artists and varnish makers. The timber of the black walnut is also very valuable, and extensively used by cabinet makers.

WASHING POWDERS AND FLUIDS.—The sole object of all washing preparations is to lessen the actual labor of washing. All of them, no matter by what name they may be called, have the same essential elements. If fluid, they are composed of soda, lime, ammonia, alcohol and water, or potash, borax, salt, soapwash and water; if in the shape of a powder, there will be the hydrous silicate of soda or potash, in dry, fine powder, carbonate of soda, soda ash and lime. The only difference in all the numerous varieties is the relative quantities of these elements.

WAX.—The wax commonly known to grocers is the substance of which the cells of the honeycomb is composed. It is more or less yellow in color, and has an odor resembling that of honey. After the wax has served its original purpose in the hive, it is collected for manufacturing purposes, the honey is pressed out, water and aquefortis is then blended with it in proper proportions, and after cooling

off it is exposed to the action of the air on a bleaching ground, and gradually loses both color and odor; after which process it is ready for market.

MYRTLE WAX—Is obtained from a plant commonly called the Candleberry or Tallow Tree, a native of the United States, and particularly abundant in the southern States. A bushel of berries will yield from four to five pounds of wax, which is chiefly used for the manufacture of candles. Candles made of this wax burn slowly, emit little smoke, and give a fragrant, balsamic odor, but have not much illuminating power. A good, exquisitely-scented soap is, however, made from it.

WAXED PAPER—A new article in the market; is used to wrap butter, lard and cheese; bought at retail, and is very convenient and cleanly. Being very cheap, and, when well made, without taste or odor, it is rapidly getting into general use.

WHEAT.—This is a staple grain in the United States, and one of the most valuable and universally used of all cereals, furnishing the chief article of food in all civilized nations, especially in temperate climates. Besides being ground into flour and baked into bread, the grain itself is crushed, with the husk or shell, and either sold in that condition, or else the bran is sifted from it; it retains the gluten oatmeal.

WHEAT CRACKED.—A palatable, nourishing and highly popular article of diet, and a valuable addition to the domestic catalogue as a delicate food for invalids and children, and especially suitable for the breakfast table. For its nutritious and health-giving qualities it holds a place in the same rank as oatmeal, and is highly recommended by eminent medical practitioners.

WHEAT CRUSHED.—This is a preparation of the entire wheat product, which has come into quite general use. The wheat is thoroughly cleansed and purified from all extraneous admixture, and prepared in such a manner that all the elements of the grain are preserved. It is said to be a favorite food with people of sedentary habits.

WHEAT FLOUR.—This is the kernel or grain of the wheat, divested of its coat or husk, and ground into a fine powder; the quality depending not only upon the quality of the wheat from which it was made, but upon the method of grinding, and the special processes to which it has been subjected. The process adopted with the ordinary flour is termed *low milling*, in which it is cleansed from other seeds or defective grain. It is then passed through the bolting apparatus, if intended for the higher grades, the commercial value of the product being finally determined by the amount of care and attention

which has been given to it. The celebrated *new process* flour is obtained by slow grinding, subsequent careful bolting, and, in many cases, even a regrinding, which renders it rich in gluten and commands for it the highest prices.

SELF-RAISING FLOUR—Is made by mixing with the flour certain proportions of bicarbonate of soda and cream of tartar, or tartaric acid. When this flour is moistened and made into dough, the acid reacts upon the soda, and causes the same effects as yeast, only much more rapidly, viz., the rising of the bread.

Flour is frequently adulterated with potato starch, white corn flour, rice flour, plaster of Paris, chalk, alum, sulphate of copper, etc. The alum is used to cause the flour to absorb a larger quantity of water, and add to the weight—potato starch serving the same purpose. Sulphate of copper is used to impart a delicate whiteness to the bread—the other ingredients named being simply added for the purpose of increasing the weight with injurious and much cheaper articles.

WHISKEY—Is extensively sold by grocers in all our towns and cities, and is distilled in this country from barley, Indian corn, rye, potatoes and turnips; it usually contains about fifty per cent. of alcohol. Bourbon whiskey is prepared from a mixture of Indian corn and small grain with about ten per cent. of malt—Monongahela being made entirely from rye, with the addition of ten per cent. of malt. A large proportion of the cheaper whiskeys are artificially prepared from the raw products of malt, or potato spirits, and other substances mixed with water, creosote being added to give it the whiskey flavor. The principal manufactories in the United States are located in Illinois, Indiana, Ohio, Kentucky, Pennsylvania and New York. The average annual manufacture of distilled spirits in this country is about 70,000,000 gallons, of which fully 200,000 gallons are exported. The revenue tax on proof spirit is ninety cents per gallon.

WINE.—Wine is, strictly speaking, the fermented juice of the grape, and our readers can judge pretty fairly how nearly (or rather how far from this natural standard) the foreign or imported wines can justify their claim to this interpretation. Of the secrets or particulars of the various manufactures called by this name we will say nothing, simply referring to those of American production, as those in which we are most interested. Of American wines, those of California are rapidly outrivalling those of the Old World, on account of their purity, their improved treatment, and the judicious selection of the fruit. In some portions of the eastern United States, large quantities of wine are made from the juice of the Catawba grape; but, in consequence of the presence of a great proportion of malic acid, it is generally considered an inferior production. The production of wine in the United States averages fully 4,500,000 gallons, of which California produces from fifty to fifty-five per cent.

YEAST.—Throughout the entire Union the manufacture of home-made bread is a specialty, and, notwithstanding the great increase in bread preparations and baking powders, the sale of Yeast still maintains its original status, in the form of *Compressed Yeast*, which was originally introduced into this country from Holland. Its purity, economy and convenience, naturally commend its use to all housekeepers; but it would be invidious and superfluous to mention any special manufacture when all are excellent.

WEIGHTS, MEASURES, ETC.

UNITED STATES MONEY.

10 Mills.....	make	one cent.
10 Cents.....	"	one dime.
10 Dimes.....	"	one dollar.
10 Dollars.....	"	one eagle.

AVOIRDUPOIS WEIGHT.

By this weight all articles in the grocer's trade are bought and sold.

27 11-32 Grains.....	make	1 dram.
16 Drams.....	"	1 ounce.
16 Ounces.....	"	1 pound.
25 Pounds.....	"	1 quarter.
4 Quarters or 100 pounds.....	"	1 hundred weight.
20 Hundred weight.....	"	1 ton.

The grain avoirdupois, though never used, is the same as the grain in Troy weight; 7,000 grains make the Avoirdupois pound, and 5,760 grains the Troy pound.

LIQUID MEASURE.

4 Gills.....	make	1 pint.
2 Pints.....	"	1 quart.
4 Quarts.....	"	1 gallon.
31½ Gallons.....	"	1 barrel.
63 Gallons.....	"	1 hogshead.
2 Hogsheads.....	"	1 pipe or butt.
2 Pipes.....	"	1 tun.

Five ounces Avoirdupois of water will make 1 gill. The gallon of water should contain exactly 10 pounds of pure water, at a temperature of 62° Fr., the barometer being at 30 inches.

DRY MEASURE.

4 Gills.....	make 1 pint.
2 Pints.....	" 1 quart.
8 Quarts.....	" 1 peck.
4 Pecks or 32 quarts.....	" 1 bushel.
8 Bushels.....	" 1 quarter.

The legal bushel of the United States is the old Winchester measure of 2,150.42 cubic inches. The Imperial bushel of England is 2,218.142 cubic inches; so that 32 English bushels are about equivalent to 33 of ours.

TROY WEIGHT.

24 Grains	make 1 pennyweight or	24 grains.
20 Pennyweights	" 1 ounce or	480 grains.
12 Ounces.....	" 1 pound or	5,760 grains.

APOTHECARIES' WEIGHT.

20 Grains	make 1 scruple.
8 Scruples	" 1 dram.
8 Drams	" 1 ounce.
12 Ounces.....	" 1 pound.
45 Drops=1 teaspoonfull or a fluid drachm; 2 tablespoonfulls=1 oz.	

MEASURES OF SURFACE.

144 Inches.....	make 1 square foot.
9 Square Feet.....	" 1 square yard.
304 Square Yards.....	" 1 rod, perch or pole.
40 Square Rods.....	" 1 square rood.
4 Square Roods.....	" 1 square acre, or 43,560 sq. ft.
10 Square Chains.....	" 1 square acre.
640 Square Acres	" 1 square mile.

Gunter's Chain equal to 22 yards or 100 links.

MISCELLANEOUS TABLE.

12 units	make 1 dozen.
12 dozen	" 1 gross.
12 gross.....	" 1 great gross.
20 things	" 1 score.
24 sheets	" 1 quire of paper
20 quires	" 1 ream.
2 reams.....	" 1 bundle.
5 bundles.....	" 1 bale.

100 pounds	"	1 quintal of fish.
196 pounds	"	1 barrel of flour.
200 pounds	"	1 barrel of pork or beef.
100 pounds	"	1 firkin of butter.
14 pounds	"	1 stone of iron or lead.
2 1/4 stones	"	1 pig.
8 pigs	"	1 fother.
2 weys (328 lbs.)	"	1 sack of wool.
12 sacks (89 cwt.)	"	1 last.
8 inches	"	1 palm.
4 inches	"	1 hand.
9 inches	"	1 span.
18 inches	"	1 cubit.
22 inches (nearly)	"	1 sacred cubit.
8 feet	"	1 common pace.

Pork, full weight, should contain 200 lbs., but the standard has been reduced to 190 lbs.; pickled beef, hams in barrels, 806 and 220 lbs.; clear sides in bulk, in boxes, 500 lbs., and in hhds. from 800 to 1000 lbs.

WEIGHTS OF ORIGINAL PACKAGES.

COFFEE.

	Lbs.
Brazil, bags, old style	160
" " new style	132
Domingo, bags	130
Laguaira, "	110
Maracalbo, "	120
Ceylon "	150
Manilla, mats	70
Jamaica, packages	200
Java and Singapore, bags	130
" " mats	60

SUGAR.

	Lbs.
Cuba, hhds.about	1,350
" boxes	400
Domestic, hhds.	1,100
Java, baskets	500
" bags	60
Manilla, bags	70
East India, bags	150
Brazil, bags	150

In the transportation of freights, actual weight is generally given, but when that cannot be done, the following articles are estimated as follows:

Ale and Beer	320 lbs. per bbl.
" "	170 " 1/2 "
" "	100 " 1/2 "
Apples, dried	24 " bu.
" green	56 " "
" "	150 " bbl.

Barley	48	per bu.
Beans, white	60	" "
" castor	48	" "
Beef	320	" bbl.
Bran	20	" bu.
Brooms	40	" doz.
Buckwheat	52	" bu.
Cider	350	" bbl.
Charcoal	22	" bu.
Clover Seed	60	" "
Corn	56	" "
" in ear	70	" "
" meal	48	" "
" "	220	" bb
Eggs	200	" "
Fish	300	" "
Flax Seed	56	" bu.
Flour	200	" bbl.
Hemp Seed	44	" bu.
High Wines	350	" bbl.
Hungarian Grass Seed	45	" bu.
Lime	200	" bbl.
Malt	38	" bu.
Millet	45	" "
Nails	108	" keg.
Oats	32	" bu.
Oil	400	" bbl.
Onions	57	" bu.
Peaches, dried	33	" "
Pork	320	" bbl.
Potatoes, common	150	" "
" "	60	" bu.
" sweet	55	" "
Rye	56	" "
Salt, fine	56	" "
" "	300	" bbl.
Salt coarse	350	" "
" "	200	" sack.
Timothy seed	45	" bu.
Turnips	56	" "
Vinegar	350	" bbl.
Wheat	60	" bu.
Whiskey	350	" bbl.
One ton weight is	2,000 lbs.	

FOREIGN WEIGHTS AND MEASURES.

REDUCED TO THE STANDARD OF THE UNITED STATES.

Aham, in Amsterdam	41 gallons.
Almude, in Portugal	44 gallons.
Almude, in Madeira	4.68 gallons.
Alquiere, in Madeira	over 14 peck.
Alquiere, in Portugal	1½ to nearly 14 pecks.
Alquiere, in Bahia	1 bushel.

Alquiere, in Maranham	14 bushels.
Alquiere, in Rio Janeiro and Pernambuco	1 to 1½ bushels.
Anna, of rice, in Ceylon	260 2-5 pounds.
Arroba, in Portugal and Brazil	32½ pounds.
Arroba, in Spain and the Argentine Confederation	25 pounds.
Arroba, in Spain (liquid measure)	46 gallons.
Arroba, in Havana	8.10 gallons.
Arroba, in Malaga, of wine	about 4½ gallons.
Arsheen, in Russia	28 inches.
Bahar, in Batavia	3 to 4½ piculs.
Bale, of cinnamon, in Ceylon, net	104½ pounds.
Barile, in Naples	equals about 11 gallons.
Barde, in Leghorn, of wines	12.04 gallons.
Candy, Ceylon	545 pounds.
Candy, Bombay	560 pounds.
Candy, Bombay (grain)	368 pounds.
Candy, Bombay (rice), nearly 25 bushels	215.93 pounds.
Candy, Madras	500 pounds.
Cantar, in Levant, contains 44 oakes	118.80 pounds.
Cantar, in Leghorn, of oil	88 pounds.
Cantar, in Malta	171½ pounds.
Cantar, in Naples	106 to 196½ pounds.
Cantar, in Sicily	175 to 192½ pounds.
Carro, in Naples, of grain	52½ bushels.
Carro, in Naples, of wine	264 gallons.
Catty, of tea, in China	1½ pounds.
Cayang or Koyang, in Batavia	3.581 pounds.
Chetwert, in Russia	595 bushels.
Fenega, in Spain	1,575 bushels.
Fenega, Havana	1,123 bushels.
Hectolitre, in France	2.84 bushels.
Killog, in France and Netherlands	2.21 pounds.
Last, in Amsterdam, of grain	85½ bushels.
Last, in Bremen, of grain	80 bushels.
Last, in Cadiz, of salt	74 4-5 bushels.
Last, in Dantzic, of grain	nearly 93 bushels.
Last, in Flushing, of grain	90½ bushels.
Last, in Hamburgh, of grain	89.64 bushels.
Last, in Lubec, of grain	over 91 bushels.
Last, in Portugal, of salt	70 bushels.
Last, in Rotterdam, of grain	85.186 bushels.
Last, in Sweden	75 bushels.
Last, in Utrecht, of grain	over 59 bushels.
Lispound, in Hamburg	16 pounds 5 ounces.
Lispound, in Holland	18 pounds 4 ounces.
Mark, Holland	9 ounces.
Maud, in Calcutta	75 to 84 pounds.
Maund, Bengal	85.235 pounds.
Maund, Bengal (Factory)	74.667 pounds.
Maund, Bombay	28 pounds.
Maund, Madras	25 pounds.
Mina, in Greece	2.205 pounds.
Mino, in Genoa, of Grain	3.43 bushels.
Mount, in France	1 ton.
Moy, in Lisbon	24 bushels.
Moy, in Oporto	30 bushels.
Moyo, in Portugal	contains over 23 bushels.

Moke, in Smyrna.....	23 pounds.
Ohm, Hamburg.....	38.28 gallons.
Orna, in Trieste, of wine.....	14.94 gallons.
Orna, of oil.....	17 gallons.
Oalmo, in Naples.....	is a little over 10 inches.
Pfund, Austria and Bavaria.....	1,235 pounds.
Pfund, Bremen.....	1.99 pounds.
Pfund, Denmark.....	1.102 pounds.
Pfund, Hamburg.....	1.068 pounds.
Pond, Netherlands (Metric).....	2.505 pounds.
Punt, Russia.....	9.028 pounds.
Pecul, in Batavia and Madras.....	135.68 pounds.
Pecul, in China and Japan.....	133½ pounds.
Pipe, in Spain, of wine.....	160 to 164 gallons.
Pood, in Russia.....	is equal to nearly 86 pounds 2 ounces.
Quarter, in England, of grain.....	8 bushels.
Quintal, in Portugal.....	89.05 pounds.
Quintal, in Smyrna.....	139.48 pounds.
Quintal, in Spain.....	96 pounds.
Quintal, in Turkey.....	167 pounds 8 ounces.
Rottoli, in Portugal.....	12 pounds 4 ounces.
Rottoli, in Genoa.....	24 pounds.
Rottoli, in Leghorn.....	23 pounds.
Salma, in Sicily, of grain.....	9.77 bushels.
Salma, in Malta, of grain.....	8.22 bushels.
Scneffel, in Germany.....	varies from 1½ to nearly 8 bushels.
Shippound, in Hamburg and Denmark.....	331 pounds.
Shippound, in Holland.....	368 pounds 4 ounces.
Staro, in Trieste.....	2½ bushels.
Tael, in China.....	1½ ounces.
Vara, in Rio Janeiro.....	nearly 1½ yards.
Vara, in Spain.....	100 are equal to 920 yards.
Werst, in Russia.....	350½ feet.

RAPID PROGRESS OF MARKING GOODS AT ANY DESIRED PER CENT. PROFIT.

Retail merchants, in buying goods by wholesale, buy a great many articles by the dozen, such as boots and shoes, hats and caps, and notions of various kinds; now the merchant, in buying, for instance, a dozen hats, knows exactly what one of these hats will retail for in the market where he deals; and, unless he is a good accountant, it will often take him some time to determine whether he can afford to purchase the dozen hats and make a living profit by selling them by the single hat; and in buying his goods by auction, as the merchant often does, he has not time to make the calculation before the goods are bid off. He therefore loses the chance of making good bargains by being afraid to bid at random; or if he bids, and the goods are cried off, he may have made a poor bargain, by bidding thus at a venture. It then becomes a useful and practical problem to determine INSTANTLY what per cent. he would gain if he retailed the hat at a certain price, to tell what an article should retail for to make a profit of 20 per cent.

RULE.—Divide what the articles cost per dozen by 10, which is done by removing the decimal point one place to the left.

For instance—if hats cost \$17.50 per dozen, remove the decimal point one place to the left, making \$1.75, what they should be sold for apiece to gain 20 per cent. on the cost. If they cost \$31.00 per dozen, they should be sold at \$3.10 apiece, etc. We take 20 per cent. as the basis, for the following reasons, viz., because we can determine instantly by simply removing the decimal point, without changing a figure, and, if the goods would not bring at least 20 per cent. profit in the home market, the merchant could not afford to purchase, and would look for cheaper goods.

The reason for the above rule is obvious, for if we divide the cost of a dozen by 12, we have the cost of a single article; then if we wish to make twenty per cent. on the cost (cost being 1-1 or 5-5), we add the per cent., which is 1-5, to the 5-5, making 6-5 or 12-10; then as we multiply the cost, divided by 12, by the 12-10, to find at what price one must be sold to gain 20 per cent., it is evident that the 12s will cancel and leave the cost of a dozen to be divided by 10—to do this remove the decimal point one place to the left.

EXAMPLE 1.—If I buy 2 dozen caps at \$7.50 per dozen, what shall I retail them at to make 20 per cent.? Ans. 75 cents.

EXAMPLE 2.—When a merchant retails a vest at \$4.50, and makes 20 per cent., what did he pay per dozen? Ans. \$45.

EXAMPLE 3.—At what price should I retail a pair of boots that cost \$85 per dozen, to make 20 per cent.? Ans. \$8.50.

Now, as removing the decimal point one place to the left, on the cost of a dozen articles, gives the selling price of a single one with 20 per cent. added to the cost, and, as the cost of any article is 100 per cent., it is obvious that the selling price would 20 per cent. more, or 120 per cent.; hence, to find 50 per cent. profit, which would make the selling price 150 per cent., we would first find 120 per cent., then add 30 per cent. by increasing it one-fourth itself; for 35 per cent., increase it one-eighth itself, etc. Hence, to mark an article at any per cent. profit, we find the following:—

GENERAL RULE.—First find 20 per cent. profit by removing the decimal point one place to the left on the price the articles cost per dozen; then, as 20 per cent. profit is 120 per cent., add to or subtract from this amount the fractional part that the required per cent., added to 100, is more or less than 120.

Merchants, in marking goods, generally take a per cent. that is an aliquot part of 100, as 25, 33 1-3, 50, etc. The reason they do this is because it makes it much easier to add such a per cent. to the cost; for instance, a merchant could mark almost a dozen articles at 50 per cent. profit in the time it would take him to mark one at 49 per cent. The following is arranged for the convenience of business men in marking the prices of all articles bought by the dozen:—

To make 20 per cent. remove the point one place to the left,					
"	80	"	"	"	and add 1-2 itself.
"	60	"	"	"	" 1-3 "
"	50	"	"	"	" 1-4 "
"	44	"	"	"	" 1-5 "
"	40	"	"	"	" 1-6 "
"	37	"	"	"	" 1-7 "
"	35	"	"	"	" 1-8 "
"	33 1-3	"	"	"	" 1-9 "
"	32	"	"	"	" 1-10 "
"	30	"	"	"	" 1-12 "
"	28	"	"	"	" 1-15 "
"	26	"	"	"	" 1-20 "
"	25	"	"	"	" 1-24 "
"	12 1-2	"	"	"	subtract 1-16 "
"	16 2-3	"	"	"	" 1-36 "
"	18 3-4	"	"	"	" 1-96 "

If I buy a dozen shirts for \$28, what shall I retail them for to make 50 per cent.? Ans. \$3.50.

EXPLANATION.—Remove the point one place to the left, and add 1-4 itself.

MARKING GOODS.

In marking goods it is usual with merchants to make use of a private mark, phrase, or key-word, to designate the cost and selling price of their goods, the object being to conceal these points from all except their own salesmen. The following words and phrases present a choice from which to make a selection:—

GAS FIXTURE.	FISH TACKLE.	BROWN SUGAR.
BLACK HORSE.	CASH PROFIT.	NOW BE SHARP.
MISFORTUNE.	SO FRIENDLY.	ELUCIDATOR.
IMPORTANCE.	GAINFUL JOB.	OF INDUSTRY.

It will be noticed that each word or phrase contains ten letters, no two alike, the object being to use letters instead of figures in marking the goods. For instance, take the phrase

G A S F I X T U R E.
1 2 3 4 5 6 7 8 9 0

In marking the cost and selling price on a ticket, we assume that the cost is \$3.25 and the selling price \$4.37; this would be represented by the dumb letters *s a t - f s t*. The cost price is generally placed uppermost on the tag, the selling price below it, thus: $\frac{s a t}{f s t}$. An extra letter, styled a repeater, is used to obviate the repetition of a letter or figure, as well as to prevent the disclosure of the private mark; for instance, instead of writing 336 by the key-word, which would be *s x x*, use as a repeater the letter *o*, and make it read *s x o*. Fractions may be written thus: $456\frac{3}{4} = f t x \frac{o}{4}$.

METRIC SYSTEM OF WEIGHTS AND MEASURES.

FRENCH CUBIC OR SOLID MEASURE (UNITED STATES STANDARD).

		Cubic inches.
	1 Millitre or cubic centimetre.....	= .0610168
10 millilitres make	1 centilitre.....	= .610168
10 centilitres "	1 decilitre	= 6.10168
10 decilitres "	1 litre.....	= 61.0168
10 litres "	1 decalitre	= 610.168
		Cubic feet.
10 decalitre "	1 hectolitre	= 3.53105
10 hectolitres "	1 kilolitre or cubic metre	= 35.3105
10 kilolitres "	1 myriolitre.....	= 353.105

The Litre is the *unit* of capacity of both Liquid and Dry Measure.

FRENCH WEIGHTS (UNITED STATES STANDARD).

		Grains avoird.
	1 milligramme	= .01543316
10 milligrammes make	1 centigramme.....	= .1543316
10 centigrammes "	1 decigramme.....	= 1.543316
10 decigrammes "	1 GRAMME.....	= 15.43316
		Pounds avoird.
10 grammes "	1 decagramme.....	= .02204737
10 decagrammes "	1 hectogramme.....	= .2204737
10 hectogrammes "	1 KILOGRAMME	= 2.204737
10 kilogrammes "	1 myriogramme	= 22.04737
10 myriogrammes "	1 quintal.....	= 220.4737
10 quintals "	1 tonne	= 2204.737

The gramme is the basis of the French weights, and consists of a cubic centimetre of distilled water.

ALIUOT PARTS OF ONE HUNDRED AND ONE THOUSAND.

Merchants in selling goods generally make the price of an article some aliquot part of 100, as in selling sugar at 12½ cents per lb., or eight lbs. for \$1.00; or in selling calico for 16½ cents per yard, or six yards for \$1.00, etc. The following table will be found valuable for all such calculations:

12 1-2 is 1-8 part of 100.	8 1-3 is 1-12 part of 100.
25 is 1-4 part of 100.	16 2-3 is 2-12 or 1-6 part of 100.
37 1-2 is 3-8 part of 100.	33 1-3 is 4-12 or 1-3 part of 100.
50 is 4-8 or 1-2 of 100.	66 2-3 is 8-12 or 2-3 part of 100.
62 1-2 is 5-8 part of 100.	83 1-3 is 10-12 or 5-6 part of 100.
75 is 6-8 or 3-4 part of 100.	125 is 1-8 part of 1000.
87 1-2 is 7-8 part 100.	250 is 2-8 or 1-4 part of 1000.
6 1-4 is 1-16 part of 100.	375 is 3-8 part of 1000.
18 3-4 is 3-16 part of 100.	625 is 5-8 part of 1000.
31 1-4 is 5-16 part of 100.	875 is 7-8 part of 1000.

WATER IN DIFFERENT WOODS.

The percentage of water in different woods is as follows:—

Alder has 41.6 per cent.; Ash, 28.7; Birch, 30.8; Elm, 44.5; Horse-chestnut, 33.2; Larch, 43.6; Mountain Ash, 28.3; Oak, 34.7; Pine, 39.7; Red Beech, 39.7; Red Pine, 45.2; White Oak, 36.2; White Pine, 37.1; White Poplar, 50.6.

BUSINESS LAW.

If a note is lost or stolen, it does not release the maker; he must pay it, if the consideration for which it was given and the amount can be proven.

Notes bear interest only when so stated.

Principals are responsible for the acts of their agents.

Each individual in a partnership is responsible for the whole amount of the debts of the firm, except in cases of special partnership.

Ignorance of the law excuses no one.

The law compels no one to do impossibilities.

An agreement without consideration is void.

A note made on Sunday is void.

Contracts made on Sunday cannot be enforced.

A note by a minor is void.

A contract made with a minor is void.

A contract made with a lunatic is void.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

It is a fraud to conceal a fraud.

Signatures made with a lead pencil are good in law.

A receipt for money is not always conclusive.

The acts of one partner bind all the rest.

"Value received" is usually written in a note, and should be, but is not absolutely necessary. If not written, it is presumed by the law, or may be supplied by proof.

The maker of an "accommodation" bill or note (one for which he has received no consideration, having lent his name or credit for the accommodation of the holder) is not bound to the person accommodated, but is bound to all other parties, precisely as if there was a good consideration.

No consideration is sufficient in law, if it be illegal in its nature.

Checks or drafts must be presented for payment without unreasonable delay.

Checks or drafts should be presented during business hours; but in this country, except in the case of banks, the time extends through the day and evening.

If the drawee of a check or draft has changed his residence, the holder must use due or reasonable diligence to find him.

If one who holds a check as payee or otherwise, transfers it to another, he has a right to insist that the check be presented that day, or, at farthest, on the day following.

A note indorsed in blank (the name of the indorser only written) is transferable by delivery, the same as if made payable to bearer.

If the time of payment of a note is not inserted, it is held payable on demand.

The time of payment of a note must not depend upon a contingency; the promise must be absolute.

A bill may be written upon any paper or substitute for it, either with ink or pencil.

The payee should be distinctly named in the note, unless it is payable to bearer.

An indorsee has a right of action against all whose names were on the bill when he received it.

If the letter containing a protest of non-payment be put into the post-office, any miscarriage does not affect the party giving notice.

Notice of protest may be sent either to the place of business or of residence of the party notified.

The holder of a note may give notice of protest either to all the previous indorsers or only to one of them; in case of the latter he must select the last indorser, and the last must give notice to the last before him, and so on. Each endorser must send notice the same day or the day following. Neither Sunday or legal holiday is to be counted in reckoning the time in which notice is to be given.

The loss of a bill or note is not sufficient excuse for not giving notice of protest.

If two or more persons as partners are jointly liable on a note or bill, due notice to one of them is sufficient.

If a note or bill is transferred as security, or even as payment of a pre-existing debt, the debt revives if the bill or note be dishonored.

An indorsement may be written on the face or back.

An indorser may prevent his own liability to be sued by writing "without recourse," or similar words.

All claims which do not rest upon a seal or judgment, must be sued within six years from the time when they arise.

Part payment of a debt which has passed the time of statutory limitation revives the whole debt, and the claim holds good for another period of six years from the date of such partial payment.

A verbal promise to pay, made without conditions, is generally held as sufficient to revive a claim otherwise shut out by the law of limitation.

If, when a debt is due, the debtor is out of the State, the "six years" do not begin to run until he returns. If he afterward leave the State, the time forward counts the same as if he remained in the State.

An oral agreement must be proved by evidence. A written agreement proves itself. The law prefers written to oral evidence, because of its precision.

No evidence may be introduced to contradict or vary a written contract; but it may be received in order to explain it, when such contract is in need of explanation.

TO FIND THE CAPACITY OF BINS, BOXES, Etc.

Multiply together the length, breadth, and height of the bin or box expressed in inches or feet; the product will be the capacity expressed in cubic inches or feet. To get the capacity in bushels, divide the whole number of cubic inches in the box by 2150. For gallons, divide the whole number of cubic inches by 231. For coal, divide the whole number of cubic feet by 32 for hard, or 35 for soft coal—the quotient will be the capacity of the bin in tons.

A standard bushel contains 2150.42 cubic inches.

A gallon (wine measure) contains 231 cubic inches.

A ton of coal (anthracite or hard) occupies about 32 cubic feet.

A ton of coal (bituminous or soft) occupies about 35 cubic feet.

A box 24 by 16 inches, 22 deep, contains 1 barrel.

A box 16 by 16 1-2 inches, 8 deep, contains 1 bushel.

A box 8 by 8 1-2 inches, 8 deep, contains 1 peck.

A box 4 by 4 inches, 4 1-2 deep, contains half peck.

A box 4 by 4 inches, 4-10 deep, contains 1 quart.

HOW TO CONDUCT A SUCCESSFUL BUSINESS.

That short credits and small profits form the golden rule for success in trade, may be seen from the following table, exhibiting the amounts realized for \$100, at various percentages during various periods :—

If turned over every	3 months,	Am't at 5 pr. ct.	Am't at 5 pr. ct.	Am't at 5 pr. ct.	Am't at 10 pr. ct.
"	"	\$326.20	\$708.99	\$2172.45	\$4525.92
"	"	180.61	265.32	466.09	672.75
"	"	155.79	207.89	317.21	417.72
"	"	134.89	162.88	215.89	259.37
"	"	115.92	127.62	146.98	161.05
"	"	106.09	110.25	116.64	121.00

TENSILE STRENGTH OF DIFFERENT KINDS OF WOOD,
SHOWING THE WEIGHT OR POWER REQUIRED TO TEAR ASUNDER ONE
SQUARE INCH.

Lbs.	Lbs.
Lance.....23,000	Pitch Pine.....12,000
Locust.....25,000	White Pine (American).....11,800
Mahogany.....21,000	White Oak ".....11,500
Box.....20,000	Lignum Vitas.....11,800
African Oak.....14,500	Beech.....11,500
Bay.....14,500	Chestnut (sweet).....10,500
Teak.....14,000	Maple.....10,500
Cedar.....14,000	White Spruce.....10,290
Ash.....14,000	English Oak.....10,900
Oak, seasoned.....13,600	Pear.....9,800
Elm.....13,400	Larch.....9,500
Sycamore.....13,000	Mahogany (Spanish).....8,000
Willow.....13,000	Walnut.....7,800
Christiana Deal.....12,400	Poplar.....7,000
Spanish Mahogany.....12,000	Cypress.....6,000

COMPARATIVE YIELD OF VARIOUS VEGETABLES.

PRODUCTIONS IN POUNDS WEIGHT PER ACRE.

Lbs. per Acre.	Lbs. per Acre.
Hops 442	Grass 7,000
Wheat 1,260	Carrots 6,800
Barley 1,600	Potatoes 7,500
Oats 1,840	Apples 8,000
Peas 1,920	Turnips 8,420
Bean 2,000	Cinque-foll Grass..... 9,600
Plums 2,000	Vetches (Green)..... 9,800
Cherries 2,000	Cabbages 10,900
Onions 2,800	Parsnips 11,200
Hay 4,000	Mangel Wurzel..... 22,000
Pears 5,000	

One acre will produce 224 lbs. mutton, 186 lbs. beef, 2900 lbs. milk, 800 lbs. butter, and 200 lbs. cheese. A fair crop of potatoes, from 16 bushels of seed, is 340 bushels.

HOMESTEAD AND OTHER PROPERTY EXEMPTIONS.

COMPILED FROM THE REVISED STATUTES AND SESSION LAWS OF THE SEVERAL STATES.

ALABAMA.—Real estate exemption: 160 acres with house in country, or lot and dwelling to value of \$2,000 in city. Personal property exemption: to amount of \$1,000.

ARKANSAS.—Real estate: 160 acres in country, or city lot with improvements to value of \$5,000. Personal property: to amount of \$2,000.

CALIFORNIA.—Real estate: homestead to value of \$5,000. Personal property: \$200 furniture, and a multitude of special articles.

COLORADO.—Real estate: not over \$2,000. Personal property: tools, books, stock in trade to amount of \$300, and various articles.

CONNECTICUT.—No real estate exemption. Personal property: \$300 in library, necessary clothing and furniture.

DELAWARE.—No real estate exemption. Personal property: wearing apparel, library, tools and \$200 additional property.

FLORIDA.—Real estate: 160 acres of land in country, or half acre and residence in town. Personal property: to amount of \$1,000.

GEORGIA.—Real estate: homestead, value in specie, \$2,000. Personal property: value in specie, \$1,000.

ILLINOIS.—Real estate: residence worth \$1,000. Personal property: \$100 furniture, stock or tools, clothing, library, and \$100 in other property.

INDIANA.—Real estate: \$700 real or personal, or both. Personal property: \$300 real or personal, or both.

IOWA.—Real estate: 40 acres in country, or quarter acre with house in town, all worth \$500. Personal property: \$100 furniture, also clothing, tools, farm animals, etc.; \$1,200 printing press and type for printer.

KANSAS.—Real estate: 160 acres in country, or one acre with improvements in town. Personal property: \$5,000 furniture, library, clothing, tools, farm animals, \$300 farming utensils, \$400 stock in trade.

KENTUCKY.—Real estate: land with dwelling to value of \$1,000. Personal property: \$100 furniture, clothing and domestic animals.

LOUISIANA.—Real estate: 160 acres of land, with buildings, etc., amounting to \$2,000, with personal property.

MAINE.—Real estate: land and dwelling, valued at \$500. Personal property: \$50 furniture, \$150 library, \$300 farm animals, clothing, tools, etc.

MARYLAND.—No real estate exempted. Personal property: necessary tools, apparel, books, etc.

MASSACHUSETTS.—Real estate: homestead to value of \$800. Personal property: \$100 furniture, \$50 library, clothing, animals, stock and materials, \$100.

MICHIGAN.—Real estate: 40 acres in country, or city lot and residence to value \$1,500. Personal property: \$250 furniture, \$250 stock in trade, \$150 books, farm animals and minor articles.

MINNESOTA.—Real estate: 80 acres and dwelling in country, or lot and house in town. Personal property: \$500 furniture, \$400 tools or stock in trade, \$300 farming utensils, library, clothing.

MISSISSIPPI.—Real estate: 80 acres in country, or \$2,000 town property, including homestead. Sundry personal effects.

MISSOURI.—Real estate: 160 acres, worth \$1,500 in country, or buildings in city to value of \$1,500 to \$3,000. \$300 worth of personal property.

NEBRASKA.—Real estate: 160 acres, with improvements. Personal property: \$500 exempted when no real estate is owned.

NEVADA.—Real estate to the amount of \$5,000. Personal property: \$1,500 exempted.

NEW HAMPSHIRE.—Real estate: homestead worth \$500. Personal property: \$100 furniture, \$200 in library, \$100 in tools, \$50 in fuel and provisions, clothing, domestic animals.

NEW JERSEY.—Real estate to amount of \$1,000. Personal property to amount of \$200.

NEW YORK.—Real estate: homestead to value of \$1000, Personal property: \$25 mechanics' tools, furniture, instruments, library, etc.

NORTH CAROLINA.—Real estate to value of \$1,000. Personal property to value of \$500.

OHIO.—Real estate to amount of \$1,000. Personal property: clothing, bedding, and \$500 additional exemption, if no real estate is owned.

OREGON.—No real estate exemption. Personal property: \$300 furniture, \$100 clothing, \$400 tools, etc., \$50 for each member of family, farm animals.

PENNSYLVANIA.—No real estate exemption. \$300 in personal property.

RHODE ISLAND.—No real estate exemption. Personal property: clothing, cow and hog, \$200 furniture, \$50 tools, etc., of profession.

SOUTH CAROLINA.—Real estate: homestead worth \$1,000. Personal property: clothing, \$500 furniture, etc.

TENNESSEE.—Real estate: homestead worth \$1,000. \$500 personal property.

TEXAS.—Real estate: 200 acres with house in country, or lot and residence worth \$5,000 in town. Personal property: \$500 furniture, horse, saddle and bridle, clothing, books, animals and one year's provisions.

VERMONT.—Real estate: homestead worth \$500 and growing crops. Personal property: clothing, furniture, farm animals and sundry stores, \$200 in teams, \$200 professional library.

VIRGINIA.—\$2,000 in real or personal property.

WEST VIRGINIA.—Real estate: homestead worth \$1,000. \$500 worth personal property.

WISCONSIN.—Real estate: 40 acres with house in country, or house and quarter acre in town. Personal property: \$200 furniture, farm animals, \$50 farm tools, \$200 mechanics' tools, \$200 professional library.

INTEREST RULES.

FOUR PER CENT.—Multiply the principal by the number of days to run; separate the right-hand figure from product, and divide by 9.

FIVE PER CENT.—Multiply by number of days, and divide by 72.

SIX PER CENT.—Multiply by number of days; separate right-hand figure, and divide by 6.

SEVEN AND THREE-TENTHS PER CENT.—Multiply by number of days, and double the amount so obtained. On \$100 the interest is just 2 cents per day.

EIGHT PER CENT.—Multiply by number of days, and divide by 45.

NINE PER CENT.—Multiply by number of days; separate right-hand figure, and divide by 4.

TEN PER CENT.—Multiply by number of days, and divide by 36.

TWELVE PER CENT.—Multiply by number of days; separate right-hand figure, and divide by 3.

FIFTEEN PER CENT.—Multiply by number of days, and divide by 24.

EIGHTEEN PER CENT.—Multiply by number of days; separate right-hand figure, and divide by 2.

TWENTY PER CENT.—Multiply by number of days, and divide by 18.

LEGAL HOLIDAYS IN VARIOUS STATES.

INDEPENDENCE DAY (July 4) and **CHRISTMAS DAY** (December 25), together with **THANKSGIVING DAY** (usually last Thursday in November), are legal holidays in all States.

NEW YEAR'S DAY (January 1), in all States except Arkansas, Delaware, Georgia, Kentucky, Maine, Massachusetts, New Hampshire, North Carolina, Rhode Island and South Carolina.

WASHINGTON'S BIRTHDAY (February 22), in all States except Alabama, Arkansas, Florida, Illinois, Indiana, Iowa, Kansas, Maine, Missouri, North Carolina, Ohio, Oregon, Tennessee and Texas.

GENERAL ELECTION DAY (generally on Tuesday after first Monday in November), in California, Maine, Missouri, New Jersey, New York, Oregon, South Carolina and Wisconsin.

DECORATION DAY (May 30), in Colorado, Connecticut, Maine, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Massachusetts and Vermont.

GOOD FRIDAY, in Florida, Louisiana, Minnesota and Pennsylvania.

SHROVE TUESDAY, in Louisiana and cities of Mobile, Montgomery and Selma, Alabama.

MEMORIAL DAY, in Georgia.

ANNIVERSARY OF BATTLE OF NEW ORLEANS (January 8), **LINCOLN'S BIRTHDAY** (February 12), **FIREMEN'S ANNIVERSARY**, in Louisiana.

ANNIVERSARY OF TEXAN INDEPENDENCE (March 2), and **BATTLE OF SAN JACINTO** (April 21), in Texas.

PAINTING.

1 gallon	priming color	will cover	50	superficial yards.
1 "	white zinc	"	50	" "
1 "	white paint	"	44	" "
1 "	lead color	"	50	" "
1 "	black paint	"	50	" "
1 "	stone color	"	44	" "
1 "	yellow paint	"	44	" "
1 "	blue color	"	45	" "
1 "	green paint	"	45	" "
1 "	bright emer. green	"	25	" "
1 "	bronze green	"	45	" "

One pound of paint will cover about 4 superficial yards the first coat, and about 6 yards each additional coat. One pound of putty for stopping every 20 yards. One gallon of tar and 1 pound of pitch will cover 12 yards superficial the first coat, and 17 yards each additional coat.

WHITE PAINT.

	Inside work.	Outside work.
White lead, ground in oil.....	80	80
Boiled oil.....	14.5	9
Raw oil.....		9
Spirits turpentine.....	8	4

New wood-work requires 1 pound to the square yard for three coats.

SPEED FOR CIRCULAR SAWS.

36 inches in diameter	1000 revolutions per minute.		
36 " " " " " " " " " " " "	950	"	"
40 " " " " " " " " " " " "	900	"	"
42 " " " " " " " " " " " "	870	"	"
44 " " " " " " " " " " " "	840	"	"
46 " " " " " " " " " " " "	800	"	"
48 " " " " " " " " " " " "	760	"	"
50 " " " " " " " " " " " "	725	"	"
52 " " " " " " " " " " " "	700	"	"
54 " " " " " " " " " " " "	675	"	"
56 " " " " " " " " " " " "	650	"	"
58 " " " " " " " " " " " "	625	"	"
60 " " " " " " " " " " " "	600	"	"
62 " " " " " " " " " " " "	575	"	"
64 " " " " " " " " " " " "	560	"	"
66 " " " " " " " " " " " "	545	"	"
68 " " " " " " " " " " " "	530	"	"
70 " " " " " " " " " " " "	515	"	"
72 " " " " " " " " " " " "	500	"	"
74 " " " " " " " " " " " "	485	"	"
76 " " " " " " " " " " " "	475	"	"
Shingle machine saws	1400	"	"

TO MEASURE CORN IN THE CRIB.

This rule will apply to a crib of any size or kind. Two cubic feet of good, sound, dry corn in the ear, will make a bushel of shelled corn. To get, then, the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib, inside of the rail; multiply the length by the breadth, and the product by the height; then divide the product by two, and you have the number of bushels of shelled corn in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by 8, and point off one figure in the product for decimals.

AGES OF ANIMALS, Etc.

Elephant, 100 years and upwards; Rhinoceros, 20; Camel, 100; Lion, 25 to 70; Tigers, Leopards, Jaguars and Hyenas (in confinement), about 25 years; Beaver, 50 years; Deer, 20; Wolf, 20; Fox 14 to 16; Llamas, 15; Chamois, 25; Monkeys and Baboons, 16 to 18 years; Hare, 8; Squirrel, 7; Rabbit, 7; Swine, 25; Stag, under 50; Horse, 30; Ass, 30; Sheep, under 10; Cow, 20; Ox, 30; Swans, Parrots and Ravens, 200; Eagle, 100; Geese, 80; Hens and Pigeons, 10 to 16; Hawks, 30 to 40; Crane, 24; Blackbird, 10 to 12; Peacock, 20; Pelican, 40 to 50; Thrush, 8 to 10; Wren, 2 to 3; Nightingale, 15; Blackcap, 15; Linnet, 14 to 23; Goldfinch, 20 to 24; Redbreast, 10 to 12; Skylark, 10 to 30; Titlark, 5 to 6; Chaffinch, 20 to 24; Starling, 10 to 12; Carp, 70 to 150; Pike, 80 to 40; Salmon, 16; Codfish, 14 to 17; Eel, 10; Crocodile, 100; Tortoise, 100 to 200; Whale, estimated, 1,000; Queen Bees live 4 years; Drones, 4 months; Working Bees, 6 months.

TO DETERMINE WEIGHT OF LIVE CATTLE.

Measure in inches the girth around the breast, just behind the shoulder blade, and the length of the back from the tail to the fore part of the shoulder blade. Multiply the girth by the length, and divide by 144. If the girth is less than 3 feet, multiply the quotient by 11. If between 3 and 5 feet, multiply by 16. If between 5 and 7 feet, multiply by 23. If between 7 and 9 feet, multiply by 31. If the animal is lean, deduct 1-20 from the result, or take the girth and length in feet, multiply the square of the girth by the length, and multiply the product by 3.36. The result will be the answer in pounds. The live weight, multiplied by 6.05, gives a near approximation to the net weight.

TO ESTIMATE THE AMOUNT OF HAY IN A MOW.

A gentleman largely engaged in the growing of hay and stock in Orange County, N. Y., writes: "In this part of the country we sell hay by measurement, in a mow, and allow 512 cubic feet for a ton, and it comes out very generally correct. I have just sold a mow of hay and weighed it, and measured the mow, and this rule proved correct."

The above rule no doubt approximates as closely as possible to a correct standard, the number of cubic feet required for a ton varying a little on account of the different degrees of pressure to which the hay has been subjected, and also with the quality of the hay as regards fineness.

A CAR LOAD.

As a general rule the following quantities constitute a car load throughout Canada and the United States, viz., 20,000 lbs., or 70 bbls. of salt, 70 of lime, 70 of flour, 60 of whiskey, 200 sacks of flour, 6 cords of hard wood, 7 do. of soft wood, 16 head of horses, 18 to 20 head of cattle, 50 to 60 head of hogs, 80 to 100 head of sheep, 9,000 feet of solid boards, 17,000 feet of siding, 13,000 feet of flooring, 40,000 shingles, one-half less of hard lumber, one-fourth less of green lumber, one-tenth less of joists, scantling and all other large timber; 340 bushels of wheat, 360 of corn, 680 of oats, 400 of barley, 360 of flaxseed, 360 of apples, 430 of Irish potatoes, 356 of sweet potatoes, 1,000 bushels of bran.

SAVINGS BANKS.

These institutions, which are scattered thickly throughout New England, are of the greatest value to our people. They furnish a convenient and safe place for keeping the savings of the thrifty, and they undoubtedly cause much money to be saved which would otherwise be wasted. Let no family be content till a Savings Bank book is begun for the younger members. It will give them an excellent start in life. Moreover these small sums being brought together are made available for buildings and improvements, which without them, could not be made. They form a large part of the CAPITAL of the country, and it is the CAPITAL of the country which enables the labor of the country to maintain itself, and make further savings. WORK—LEARN—SAVE! These are the watch-words for us in New England; so shall we maintain the proud position won by our fathers, and so shall we maintain and increase our prosperity.

INTEREST LAWS OF ALL THE STATES.

States and Territories.	PENALTY OF USURY.	Legal	Special.
Alabama	Loss of interest.....	8
Arizona	No penalty.....	10	No limit.
Arkansas	" "	6	" "
California	" "	10	" "
Colorado	" "	10	" "
Connecticut.....	Forfeiture of all interest	7	" "
Dakota	" " contract.....	7	18 per ct.
Delaware	" " "	6	6 "
District of Columbia	" " all interest	6	10 "
Florida.....	No penalty.....	8	No limit.
Georgia	Forfeiture of excess	7	12 per ct.
Idaho	\$300 fine or imp. 6 months, or both*	10	24 "
Illinois	Forfeiture of all interest	6	10 "
Indiana	" " interest and costs....	6	10 "
Iowa	" " excess	6	10 "
Kansas	" " " over 12 per cent.	7	12 "
Kentucky	" " all interest	6	10 "
Louisiana	" " interest	5	8 "
Maine.....	No penalty	6	No limit.
Maryland	Forfeiture of excess	6	6 per ct.
Massachusetts.....	No penalty. 6 per ct. on judgment.	6	No limit.
Michigan	Forfeiture of excess	7	10 per ct.
Minnesota	" " " over 7 per cent.	7	12 "
Mississippi	No penalty	6	No limit.
Missouri.....	Forfeiture of all interest	6	10 per ct.
Montana	No penalty	10
Nebraska	Forfeiture of all interest and costs..	10	12 per ct.
Nevada.....	No penalty	10	No limit.
New Hampshire.....	Forfeiture of 3 times interest rec'd.	6	6 per ct.
New Jersey.....	" " all interest.....	6	6 "
New Mexico	No penalty	6	12 "
New York.....	Forfeiture of contract. †.....	6	6 "
North Carolina.....	" " interest.....	6	8 "
Ohio	" " excess	6	8 "
Oregon	" " princip'l, int. and excess	10	12 "
Pennsylvania.....	" " excess, Act of 1858....	6	6 "
Rhode Island.....	" " unless by contract. ‡...	6	No limit.
South Carolina.....	No penalty.....	7	" "
Tennessee	Forf. of over 6 per ct., and \$100 fine	6	10 per ct.
Texas.....	No penalty	8	No limit.
Utah	" "	10	" "
Vermont.....	Forfeiture of excess on R. R. bonds	6	7 per ct.
Virginia	" " contract.....	6	12 "
Washington	No penalty	10	No limit.
West Virginia.....	Forfeiture of excess	6	6 per ct.
Wisconsin	" " all interest	7	10 "
Wyoming	No penalty.....	10	No limit.

* Liable to arrest for misdemeanor.

† Also punishable as a misdemeanor. Banks forfeit interest only, or double the interest if charged in advance.

‡ Also, 6 per cent. on judgment.

DUTIES ON PRODUCE.

Barley	10 cents per bushel.
Barley malt	20 " "
Buckwheat	10 per cent.
Beeswax	20 "
Beans	10 "
Butter	4 cents per pound.
Cheese	4 " "
Cider	20 per cent.
Corn	10 cents per bushel.
Cornmeal	10 per cent.
Flaxseed	20 cents per bushel.
Flour, wheat	20 per cent.
Hay	\$2.00 per ton.
Hops	8 cents per pound.
Honey	20 cents per gallon.
Oats	10 cents per bushel.
Oatmeal	4 cent per pound.
Onions	10 per cent.
Peas, dried	10 "
Peas, green	10 "
Potatoes	15 cents per bushel.
Poultry, dressed	10 per cent.
Rice, clean	2½ cents per pound.
Rice, unclean	1½ " "
Rye	10 cents per bushel.
Rye flour	4 cent per pound.
Seed, grass	20 per cent.
Turnips	10 "
Vinegar	7½ cents per gallon.
Wheat	20 " per bushel.
Starch, corn or potato	2 " per pound.
Starch, rice	2½ " "
Starch, other	2½ " "

Apples, eggs, bed feathers, fire wood, wood ashes and live poultry are admitted FREE OF DUTY.

UNIFORM PACKAGES OF FLOUR.

American export flour is put up in 140 and 280 pounds bags, while our barrels hold 196 pounds. There is little or no complaint on this side of the water about the large bags being unwieldy or too heavy to carry on a man's back, for the reason that we have better modes of handling these packages, as well as our barrels. In this matter American methods are as much superior in every way as in elevator work. In French ports, for instance, wheat is loaded and unloaded in sacks, which are carried to or fro by men, while Americans load and unload with mechanical appliances, which reduce not only the manual labor but the time occupied in the work to a minimum. This does not, however, alter the fact that it would be better for the trade of both countries, as well as all others concerned, if uniform packages were adopted for flour, and, as a correlative, for wheat measurement. Barrels, half barrels, bags, bushels, quarters and centals, form a sad mixture, and must eventually simmer down into one set of weights, to be universally adopted.

FREIGHTS.—QUANTITY OF GOODS WHICH COMPOSE A TON.

[FROM THE BY-LAWS OF THE NEW YORK CHAMBER OF COMMERCE.]

That the articles, the bulk of which shall compose a ton, to equal a TON of heavy materials, shall be in weight as follows: 1568 lbs. coffee in casks, 1880 lbs. in bags; 1120 lbs. of cocoa in casks, 1807 lbs in bags.

950 lbs. pimento in casks, 1110 in bags.

Eight barrels of flour, 196 lbs. each.

Six barrels of beef, pork, tallow, pickled fish, pitch, tar and turpentine.

Twenty hundred pounds of pig and bar iron, potashes, sugar, logwood, fustic, Nicaragua wood, and all heavy dyewoods, rice, honey, copper ore, and all other heavy goods

Sixteen hundred pounds of coffee, cocoa and dried codfish, in bulk, and twelve hundred pounds of dried codfish, in casks of any size.

Six hundred pounds of ship bread in casks, seven hundred in bags, and eight hundred in bulk.

Two hundred gallons (wine measure), reckoning the full contents of the casks, oil, wine, brandy, or any kind of liquors.

Twenty-two bushels of grain, peas or beans, in casks.

Thirty-six bushels of grain in bulk.

Thirty-six bushels of European salt.

Thirty-one bushels West India salt.

Twenty-nine bushels of sea-coal.

Forty feet (cubic measure) of mahogany, square timber, oak plank, pine and other boards, beavers, furs, peltry, beeswax, cotton, wool and bale goods, of all kinds.

One hogshhead of tobacco, and ten hundred pounds of dry hides.

Eight hundred pounds of China raw silk, ten hundred pounds of net bohea, and eight hundred do. green tea.

EXCHANGE ON ENGLAND.

5 per ct., \$4.66.7	7 per ct., \$4.75.6	8½ per ct., \$4.83.8	10½ per ct., \$4.91.1
5½ " 4.68.0	7½ " 4.76.7	9 " 4.84.4	10¾ " 4.92.2
5¾ " 4.70.0	7¾ " 4.77.8	9½ " 4.85.6	11 " 4.93.3
6 " 4.71.1	7¾ " 4.78.9	9¾ " 4.86.7	11¼ " 4.94.4
6¼ " 4.72.2	8 " 4.80.0	9¾ " 4.87.8	11½ " 4.95.6
6½ " 4.73.3	8½ " 4.81.1	10 " 4.88.9	11¾ " 4.96.7
6¾ " 4.74.4	8¾ " 4.82.2	10½ " 4.90.0	21 " 4.97.8

Old par value of the Pound Sterling is \$4.44.4. Present standard value is \$4.84.4. When exchange is at 9 per cent., it is then at par value; if less than 9 it is below; if higher than 9 it is above.

To reduce old par value, \$4.44.4, to dollars, multiply by 40 and divide by 9. To reduce dollars to old par value, reverse by multiplying by 9 and dividing by 40. The shillings and pence must first be reduced to decimals of a pound.

WITH COMPLIMENTS

OF

CHASE & SANBORN,

Importers of and Wholesale Dealers in

TEAS ^{AND} COFFEES,

BOSTON MASS., U. S. A.

INTRODUCTORY.

We have launched a small craft and trust it will find a snug harbor in every Retail Grocer's establishment in the United States.

Its cargo consists of facts and information which we have gathered from our experience as a Coffee house and also from Importers, who have spent their entire lives in the business. We are practical business men, who desire to furnish what information we can, in a plain matter-of-fact manner, believing it is for our mutual interests, that you should be informed in regard to a staple article which enters so largely into your daily sales.

In disclosing trade secrets and uncovering prevailing frauds, we have not been actuated by an aggressive spirit, but believe it is time that ignorance and its partner, humbug, should retire and make way for intelligence and progress.

Should you be able to glean any fresh information from this volume, that would enable you to purchase and place before the consumer a better cup of coffee, then shall we feel that our time, labor and expense have been amply repaid.

THE PROPERTIES OF COFFEE.

COFFEE, as a beverage, is too well known to require an extended notice. We are a nation of coffee-drinkers, consuming over one-third of the entire production of the world. You find it in the abode of the poor as well as the rich; no breakfast table is considered complete without it, and how often you hear the very significant remark, "I can make my breakfast off a cup of coffee."

Coffee contains valuable medicinal properties; among others, that of being anti-soporific, and hence useful in cases of narcotic poisoning. Coffee has frequently been found the best form of stimulant for administration to persons rescued from starvation, or perishing by cold; and this is the more noteworthy, as ardent spirits given under the same conditions often prove fatal.

Captain Parry, when on his Arctic expedition, put his star-board watch on coffee, and the port watch on rum, and the result was that, in the course of time, the coffee watch was found to possess a vigor of health entirely wanting in the other. As late as 1835, during a terrible epidemic, the physicians of New York signed a public manifesto urging the public to abstain from beer and intoxicating liquors, and drink pure coffee, in order to keep the system healthy, and render it less liable to disease. From all quarters testimony without limit might be accumulated to the same effect.

As a disinfecting agent, roasted coffee is invaluable ; it is useful to purify any place having an offensive smell or foul air. The coffee beans should be roasted in the vicinity of the room to be fumigated, and when brown, and while hot, placed in the centre. By the time the coffee is cooled the room will be rendered thoroughly pure and sweet.

HISTORY OF COFFEE.

ALTHOUGH we are all familiar with coffee as a beverage, yet, comparatively few of us know the history of its origin, where it was first grown, when introduced, how cultivated and cured.

Accounts differ as to when, where, and by whom coffee was first introduced to civilization. An eastern legend ascribes the discovery of the berry to a dervish who, in the year 1285, being driven out of Mocha, was induced in the extremity of hunger, to roast the berries which grew near his hiding place. He ate them, and steeping the roasted berries in water to quench his thirst, discovered their agreeable qualities. But a more authentic account states that it was introduced into Arabia from Southern Abyssinia (where it is indigenous) by a Mohammedan high priest, about the year 1500. We are indebted to the Persians for the discovery of the roasting process, and as the merits of coffee as a beverage would have remained unknown without that, some authorities allow them the credit of being the first introducers. It continued its career through Syria, and in the year 1554, we learn it became the favorite drink at Constantinople, and the oriental coffee houses were thronged night and day. The lower classes actually begged money for coffee, and it is stated that the refusing to supply a wife with coffee was admitted in law as a valid cause for divorce. Europeans are indebted to the Dutch for their first acquaintance with the coffee plant. This was brought

about in the following manner : some berries, which had in the first place been procured, were carried to the island of Java and there planted. A specimen plant was sent home to Amsterdam in 1690, by Gov. Wilson. This plant bore fruit, from which many young trees were propagated, and from this original, most of the gardens of Europe and the East Indies are supposed to have been furnished.

In 1714 a plant was presented by the magistrates of Amsterdam to the French King, Louis XIV. This plant was carefully nursed, and from this source plants were forwarded some years later to the French West India Islands, and from these all the coffee now found in the Western Hemisphere derives its origin.

The Parisians immediately adopted the drink, and it became the fashionable beverage of Paris. It could only be indulged in by the wealthy few, as the price was exorbitant. It is stated that a sum equivalent to \$15,000 per year was expended for supplying the daughters of Louis XV with the beverage. The English owe to Mr. Edwards, a Turkey merchant, their knowledge of coffee. This gentleman, about the year 1650, brought to England, a Greek youth who used to prepare the drink for his master ; the latter, however, finding that the novelty began to attract too many visitors to his house, gave the boy his liberty, and enabled him to open a coffee-house on his own account.

At first it met with violent opposition ; it was denounced as "hell drink," "hell poison," etc. A heavy tax was imposed upon it by the legislature, but, notwithstanding all opposition, the beverage constantly gained ground, and coffee-houses were as plentiful in London as at Constantinople.

Across the water the custom jumped, and the infant United States commenced to nourish its strength from the coffee-pot, and in no place in the world, probably, are the influences more healthful, the effects more happily displayed than in this country, especially at the "Old French Market,"

in New Orleans. The coffee-vendors are distributed throughout the market place and streets, and are kept as busy as bees supplying cups of coffee to the European, Creole, New Englander, Westerner, who, standing side by side in the open street, forget caste, and sip the nectar. The coffee-houses of New York are intimately associated with the history of the city. Here were gathered the leading literary, professional and mercantile men, who discussed the leading topics of the day while sipping their cups of coffee.

But the coffee-house is a thing of the past. The more pretentious club house has taken its place, and the lovers of coffee are forced to the restaurant for their favorite drink.

THE PLANT & ITS CULTIVATION.

HAVING in the last chapter traced the history of coffee, from the year 1500 up to the present date, we shall now endeavor to describe the nature of the plant and the method of cultivation.

The coffee plant is more the nature of a shrub, growing to the height of twelve to fifteen feet in its wild state, but, under cultivation, is kept down to six or eight feet by careful pruning and cutting, which increases the quality and quantity of its product, and lessens the labor of picking the berries. The tree grows erect, with a single stem opening out at the upper part into long, drooping branches, which seldom grow to any great thickness. Its leaves, in general appearance, resemble those of the common laurel, although not so hard or dry, being oval and sharp-pointed; from the angle of the leaf stalk small groups of white flowers appear, numbering from four to twelve in a group; they very much resemble a jessamine blossom in scent and form, being funnel-shaped and very fragrant. The flowering of the plant frequently occurs in a single night, and lasts but a few days, although in some countries the plant flowers and bears fruit the entire year. The fruit, or berries which succeed the blossom, resemble a cherry in size, are at first dark green, but soon change their hue—first to yellow, then to red, until finally they become a dark crimson. When this stage is reached they are ripe and ready to be gathered. The external part of the fruit, under the skin, is a pulpy

mass, somewhat glutinous in character, which envelopes two oval seeds, these being convex on one side and flat on the other, lie with the flat sides in contact, face to face, separated by a thin parchment or skin, and are the coffee beans of commerce.

It frequently happens that only one seed forms; this seed, in process of growth, pushes itself against the dividing membrane, and, encountering no opposing growth, naturally rounds itself, and produces a small round bean, known as the male-berry, or pea-berry.

In selecting a spot to locate a coffee plantation, the same general rules are observed throughout the coffee-growing districts of the world, viz: equable climate and a rich virgin soil, where the forest has been growing thick and heavy. Decayed trees and decomposed leaves accumulating for centuries, form a thick mould, which the coffee plant flourishes best on. The planter selects moderately gentle slopes or hillsides, protected from wind, which is sure death to the plants, with running streams for irrigating purposes, as a constant even moisture is necessary for the full development of the plant. Land being selected, his next move is to secure his plants. These are sometimes obtained by taking root shoots from the old fields, care being taken to select from a healthy plant, and set out at once into prepared ground. But, in the cultivation of coffee, the same relative improvements have been made that exist in other industries, and the modern method is to select young and thriving plants from the nurseries. These are set out in holes in order to secure a constant supply of water, and are arranged in rows from eight to ten feet apart. By pursuing this more recent method, the planter secures not only a healthier lot of trees, but obtains a crop about a year in advance. At the end of three years the plants commence bearing a small crop, but do not fully mature in less than six years, when the crops are usually very large, a single tree frequently bearing from three to four pounds of

berries. The limit of productiveness for a coffee plant is about thirty years; after that age, if any fruit forms, it is almost worthless. The plantations require constant care, weeds must be removed, the trees kept moist by watering, either naturally or artificially. (By glancing at colored engraving in front of book you will be able to get a perfect idea of the leaves, flowers and fruit of a coffee plant.)

HARVESTING AND CURING.

WE now come to the harvesting of the berries, and, as noted in our last chapter, the fruit is ready for picking when it assumes a dark crimson color. The time of picking varies according to the temperature of the producing countries. The crop begins to ripen in Brazil in May and continues until November. In Java, picking commences about the first of January, lasting three or four months. The Ceylon crop is gathered from April to July. The crop rarely ripens all at once, except on very young trees, and in order to insure the coffee arriving at perfection, and so earning a high reputation in the market, the careful planter does not pick the berries until fully ripe. To insure this, three pickings are usually considered necessary, in order to gather the berries as they ripen. The first and third are usually light ones, the bulk of the crop being obtained on the second gathering. The labor of picking is usually performed by women and children, who are furnished with two bags, a large and small one, the former being sufficiently large to tie up when containing an imperial bushel and a half. The smaller one is worn round the waist of the picker to receive the berries as they are gathered from the tree. In the height of the crop season the pickers can gather, in a day, about three bushels apiece, for which, in Ceylon, they are paid four pence a bushel, and about the same ratio of payment holds good throughout the coffee growing districts. The next process is to remove the pulp

surrounding the seeds, and for this different methods are used. The old system was, after gathering, to spread the crop out on high level terraces, exposed to the sun's rays, then, when thoroughly dried, heavy rollers were passed and repassed over the berries until the outer pulp was thoroughly cracked. Great improvements have been made on the old method by the introduction of machinery, and we will give a description of the modes employed in Brazil, which, to-day, is far ahead of all other countries in the preparation of coffee. As pursued there, the processes of preparation are first, the removal of the outer pulp by maceration in water; second, the drying of the seeds with their coverings; third, the removal of the several coverings after they are dry. To these three processes is sometimes added a fourth, by which the seeds are assorted according to their sizes and forms. Above the mills there is a cement-lined trough, through which runs a strong stream of water. Through a funnel-shaped opening the coffee berries are thrown into the stream, which carries them down with it to a large vat, a pipe draws off the heavier berries to the pulping machine, while the lighter ones (which are almost valueless) are floated on the surface water to another pipe. The pulping machine is simply a revolving iron cylinder, set with teeth and covered on one side by a curved sheet of metal, against which it crowds as it turns. It is, in fact, a nutmeg grater on a large scale. The berries carried to the cylinder by the stream of water, are crushed between it and the cover, and the pulp is thus loosened. Passing from this to a vat beyond, the water is kept in constant motion by a rapidly revolving wheel; by this means, the pulp is thoroughly washed off and carried away with the water, while the heavier seeds sink to the bottom; thence they are carried to a strainer, which drains off the water and leaves the seeds ready for the next stage. The seeds are still enclosed together in the outer and inner shell. The next process is that of drying, and is effected in two

different ways. The old way is to spread the seeds out and dry in the sun, which consumes about sixty days; during that time the seeds must be raked over and turned during the day, and gathered in piles and covered at night, or before it rains. The new system is drying by steam. In a long, low building will be found rows of zinc-covered tables, with steam pipes running beneath them, upon which the seeds are placed. The berries are constantly stirred with wooden rakes, and removed when dry. The steam process must supplant the old system entirely, as by it the coffee is dried thoroughly in a few hours, and the product is much improved in quality. The coffee grains are still enclosed in their inner and outer parchment-like shells, now dry and brittle. The removal of these is effected by machines, which resemble a threshing and fanning machine, which, by a constant grinding and pounding, produce nice, clean coffee beans. The coffee now passes to the separator, which is composed of a pair of revolving cylinders pierced with holes of different sizes and shapes. The beans being placed in the cylinders, fall through these holes, and are sorted by them into large and small, flat and round grains, which pass into different bins, finally picked over by hand, and then consigned to sacks for transportation to the shipping port; after reaching which, the coffee is packed in bags or mats and offered for sale.

VARIETIES OF COFFEES.

THE range of coffee culture extends over almost the whole of the tropical belt of the globe, flourishing best on highlands ranging from 1,500 to 5,000 feet, and between the 5th and 15th degree of latitude, north and south of the equator. Indigenous varieties of the plant are found growing in Brazil, Peru, Central America, Java and Sumatra, Ceylon, So. India, Africa (including Abyssinia, Natal, Gold Coast, Liberia,) Arabia, Manilla, the Mauritius, in the West India Islands and islands of the Pacific. But Brazil in the Western Hemisphere, Java, Sumatra, Ceylon and India in the Eastern Hemisphere, constitute at this time the great centre for coffee production.

Coffee is divided commercially into two classes, strong and mild. Strong coffee includes Rio and Santos, but more particularly Rio. East India coffee embraces all coffee raised east of the Cape of Good Hope, and, with the exception of Mocha, is principally raised on islands. They are Javas, Ceylons, Malabars and Madagascars.

The strong coffees, Rio and Santos, are a product of Brazil, a country, which, although in its infancy, is, to-day, supplying over one-half of the entire coffee crop of the world. The coffee of Brazil varies greatly in size and color. Most of the Rio received here is a small-sized bean, varying in color from a light to a dark green, with some of a yellow hue, known as Golden Rio. In flavor it is peculiarly distinct from all other coffee grown, being very rank and

strong. It is shipped from the port of Rio Janeiro principally. The principal ports of entry in the United States are New York, Baltimore and New Orleans. The coffee was formerly controlled by a few rich importers, through bankers, and sold to jobbers, who re-sold to the wholesale grocers throughout the United States. But the establishing of a line of fast steamers has completely revolutionized the importation. The time now occupied in a passage averages only about thirty days, and it is in the power of any man, with funds sufficient to purchase an exchange draft, to import small quantities. The Eastern coffee jobbers now receive Rio direct, and sell or consign to our Western States, although some of the larger Western jobbers are themselves importing direct. The West and South are the great consumers of Rio. The theory advanced for this is, that the waters of those sections are so completely filled with lime that the fine properties so highly prized in the mild coffees in the East are destroyed or killed in the making.

Santos coffee is produced in the southern districts of the Brazilian Empire, and possesses, in a mild degree, all the characteristics of Rio ; it is shipped in the same vessels with Rio coffee, and its sale is conducted in the same manner. The total yearly production of Brazil amounts to a trifle over 550,000,000 pounds, or, as we previously said over one-half of the entire coffee crop of the world. Of this, the United States absorbs the largest portion of the Rio export, while Europe takes about eighty-five per cent. of the Santos.

Mild coffees embrace all coffees except Rios and Santos. Some of them are very rank, and of positive flavor ; they are sold separately, or are mixed and combined in such a manner as to lose their individuality. The most prominent of all mild coffees is Java ;—this is raised on the islands of Java and Sumatra, and ranks first in the estimation of the coffee-drinking public of the United States.

Java coffee is classified as follows : Fancy Marks, Interiors, Preangers, Samarangs, Malangs, Kadoes, Passoeroeangs, Sumatras and Singapores.

Fancy Marks include Mandehling, Ayer-Bangies, Ankola. These are the names of the districts from which the coffees derive their names. They are valued high, commercially, owing to the comparatively small amount raised, composing only about ten or fifteen per cent. of the entire export of Javas. The bean is large and stylish, drinks rich and strong, but lacks the finer qualities of private plantation Javas, which we shall refer to later.

Interiors, so called from being raised in the interior of the island of Sumatra, are better known in this country as Padang Java, deriving the name from the port of shipment, which is Padang. They comprise the larger part of the Java coffee sold in this country, and for years have been considered a very superior coffee. They are not so stylish as Fancy Marks ; drink rich and strong, and possess a characteristic flavor of their own.

Preanger, raised on the island of Java, is somewhat different from Padang, both in style and drink, being a smaller bean and ranker, or stronger in the cup. The standard of excellence is not being kept up, and it is not so highly prized as formerly. At one time it outranked Interior Padang.

Samarangs, Malangs, Kadoes, Passoeroeangs, can be described under one head, closely resembling each other in one leading characteristic, namely ; Inferiority, and sell for about 20 per cent. less than Interior Padangs. Although grown on the island they are a disgrace to the place of their nativity. The mild coffees of South America actually excel them in style and drinking qualities, and were it not for the all-powerful name of Java, which they bear, they would not be recognized as even approaching fineness.

They are sold largely in the Eastern States, paying a large profit to wholesale dealers, and at the same time easing their

consciences, by allowing them to sell a straight Java Coffee and literally doing so, but in no particular contributing a coffee that will suit the consumer.


Sumatra coffee is raised on the island of Sumatra, and is known commercially as Free Java, from the fact that the Dutch Government have no control over the growth or sale of it. It is a large, irregular bean and drinks inferior. Little care being taken in the cultivation and curing; a large proportion of it arrives here in a condition known as ground stained, which we shall refer to later.

Singapore Java embraces coffee raised adjacent to and shipped from Singapore, but the same grade is also shipped from Macassar and Bonthyne. Each of them has a peculiar taste, which renders it very disagreeable, although we have been assured by English coffee importers, that it is the finest coffee raised, yet no greater insult can be offered to an intelligent coffee dealer in this country than to ask him to buy Singapore coffee. This coffee, years ago, was very freely imported into this country and largely sold west; but as its character became known the consumption as Singapore Java ceased. In fact, although large quantities are imported into this country, it is a common remark, that there is never a pound sold. The plain English of it is, that it is recolored in New York, (chemically), and sold as Padang. Lately there has been imported into the United States what is called plantation coffee, that is, coffee raised from fine selected seed on large private estates on the Island of Java, such estates being under the best agricultural conditions, with unlimited capital and intelligent manipulation, produce a coffee which, in the cup, makes a drink that, in our opinion, is the finest ever produced; under the above conditions some of these plantations have acquired a reputation that has reached all over the world, and recently some of the more enterprising coffee dealers have imported these coffees largely. They are sold on contract or tenders, that is, as soon as the quality and

quantity of his crop can be estimated, the planter issues tenders and solicits bids; if, when the bids are opened, the price is below his views, then he claims the right to reject them and hold his goods. But such is the reputation of these plantations, and the known high quality of their products that there is great competition and the crop sells high.

The sale of Padang Java is conducted on a different basis from any other coffee. It is advertised and sold under the auspices of the Dutch government in quarterly sales, occurring in the months of March, June, September and December. It is put up at auction, in one hundred picul lots, (a Picul is 133½ lbs.) and no buyer can purchase more than this quantity at one bidding. The price varies at each sale, and no party buying in any considerable quantity on unlimited orders, can tell what his coffee will average to cost until the whole sale is ended. The price of each quarterly sale varies with the amount advertised, and the orders received by the agents to buy.

Interior Padang Java is raised on government, or wild land. The native is furnished with the seed by the Government, which insists that he shall keep in good bearing order not less than 650 trees, and his crop, if up to the required standard, is taken by the government at a certain fixed price. After being accepted it is stored in godowns or warehouses which are built open at the sides, consequently the hot winds have free access to it and it matures or ripens in proportion to the length of time it remains in store. A proportion of the Fancy Marks are sold in same manner.

Java coffee, regardless of quality, is always shipped in grass mats, varying in weight, from 60 to 80 lbs. each. Upon the mats are plain marks which usually indicate the importer, and the district where the contents were grown. Viz: the mark,  would denote that Chase & Sanborn were the importers, and the contents were Interior Javas;

the letters K—S—P—M underneath, would respectively signify Kadoe, Samarang, Passoeroeang, Malang.

Java coffee possesses one feature peculiar to no other coffee, namely, that of turning very decidedly brown or yellow, but more especially brown.

Interior and fancy Padangs possess this peculiarity more than other varieties. If this color were a sure indication of age, we should freely concur with the views of the trade generally, that a brown Java possessed finer drinking qualities than a pale. While we do believe that age does improve its drinking qualities, we as firmly believe that the color (if natural) in no particular adds to or detracts from its value in the cup. And we have given this subject careful practical attention and investigation.

What produces the brown color? How it is obtained, is, to-day, what it has been from the time the first pound was imported, a "huge mystery."

The general theory is that it is caused by steaming or sweating in the hold of the vessel while on the passage. But why coffee grown on the same land, picked and cured at the same time, and shipped on the same vessel, should, on arrival at New York, be found to vary in color from very pale to a decided brown, is a conundrum, which refuses to be solved satisfactorily. Various experiments have been tried. At one time pepper packed in the hold with the coffee was supposed to produce the coveted result. A cargo of coffee was shipped under the above conditions and the out-turn was a beautiful brown cargo. The same vessel brought another shipment later, the same identical conditions being carefully observed, and, on removing the hatches, what was the owners chagrin to find the mystery still a mystery; his coffee was as pale as when loaded.

Practically, the demand for a brown Java is an American caprice which has enhanced its commercial value two to three cents per lb., and this caprice is also directly respon-

sible for the immense quantity of imitation brown Java, which is at present flooding the market.

Wholesale dealers demand brown Java and reject pale. What is the result? Yankee ingenuity steps in and supplies the demand by converting (by the aid of poisonous chemicals), large bean, South American mild coffees and Singapore into brown Padang Java, which only experts can detect, as far as style is concerned. In New York City, tons of such coffee are produced daily. And this condition of affairs will exist just as long as it is the exception rather than the rule, for wholesale dealers to buy coffee on style and color, and neglect through carelessness, (but oftener ignorance) to roast and test samples in the cups after the manner of testing teas. To sum up our argument, we would say, that while we do not claim that pale Java is better than brown, we do insist that it is in every particular its equal in cup value and less liable to manipulations in this country. And should you continue demanding Old Brown Java, we believe the chances are that 50 per cent. of your purchases will consist of imitations, and for the balance, if genuine, you will pay 3 to 5 cents per lb. for color, without, in any particular, improving its quality. Make drinking qualities your standard for determining excellence, and do not continue to be deceived by color, style, or trade names, such as, "Old Government Java." This term arises from the fact that the Dutch Government formerly held considerable quantities for a long time before selling it, and this was usually of very good quality. Old Government Java soon became a trade term denoting highest quality. Of late years this term has been used indiscriminately to designate all Javas, of whatever quality, and ceased to possess any real significance as to extra merit.

Mocha, the aristocratic coffee of the world, is grown in Arabia. It is found on both sides of the Red Sea, that on the north side coming from Hodgeda and commonly called

"genuine Arabian Mocha," is raised in very hot and dry localities. The bean is very small and irregular in appearance, drinks rank, acrid and peculiar, and, when roasted, is one of the most unsightly coffees grown—invariably quakery—owing to the intense heat prevalent where the coffee grows. This is transported to Aden, (the shipping port), on the backs of camels. Here it is shelled and matted for shipment. The United States are the principal consumers of this grade. That which comes from the south, from the Berbia district, has quite a large bean, drinks well, and is prized very highly. Quite lately it has been shipped to the United States and its intrinsic merit as it becomes known, will eventually make it very desirable. Probably no one kind of coffee coming to the United States is so generally adulterated or counterfeited. Vast quantities of Malabar and small bean Ceylons are shipped to Alexandria, then matted and exported as genuine Mocha.

The Mocha coffee trade of Aden is principally controlled by Armenians or Parsee Hindoos, although there are two or three German and French houses engaged in the trade, but these ship principally to France and the Continent. For a great many years the importation of Mocha coffee was in the hands of the now venerable John Bertram, Esq., of Salem, Massachusetts, and since his retirement, by Messrs. Arnold, Hines & Co., of New York, and George Ropes, Esq., of Boston, and although there may be at times genuine Mocha coffee imported by others into this country, yet so successfully and honorably have these concerns above named imported these goods, that to buy their brands seems to be the public's only guarantee of obtaining the true article. It was not our intention to advertise any man's goods in preference to another, but as this is an article which commands the highest price of any coffee on the list, we deem it our privilege to put the trade on the right track in buying the same, more especially as the talent for adulteration and imitation is being so rapidly

developed. For a long time it was supposed that the strong, unique packages such as enclose Mocha coffee, could not be tampered with or opened and closed again successfully, but by steaming the materials or bagging, the large withes by which it is sewed are carefully drawn out, the contents changed or adulterated, and the package renewed. To guard against this, the retailer must either buy of the wholesale dealer in whom he has perfect confidence, or else buy direct of the Importer. Mocha coffee, arriving in Boston direct by vessel, can always be found and bought in the original package in which it left Aden. Mocha is imported in 80 and 40 lb. packages. The inside covering is a specie of cocoa matting. Two of these packages termed quarters, or four termed eights, are enclosed in a coarse, strong covering of a material similar to palm leaves and pampas grass and tied with strong manilla rope, or with native woven rope. The consumption of Mocha is increasing very rapidly, particularly in New England. It possesses such a peculiar flavor that it does not make a palatable drink alone, but no lover of a cup of coffee will forget its fragrance when combined with Java, or relinquish it when once its splendid qualities are known. The imports of Mocha received into the United States average about 15,000 bales annually, only about one-half of which is probably of Arabian growth.

Ceylon coffee takes its name from the island of Ceylon, where it grows and is, to-day, the great rival of Java in the East. Colombo is the port of shipment, and most of the Ceylon goes to England. It is divided into two classes, Plantation and Native. Plantation Ceylon takes high rank and is considered one of the finest coffees grown. It is raised on elevated lands, the greatest care being taken in its cultivation. It is a very solid, oily bean, transparent in color, and is largely consumed in Europe, where it is very highly prized, occupying the position there that Padang Java does in the United States. It is packed in

small and large casks. Native or common Ceylon is raised on the low lands and resembles in color and size of bean Maracaibo or Savanilla, but lacks the strength of either. It is quite poor, drinks weak, and in coffee parlance, roasts quakery, resulting from the numerous blighted or undeveloped beans which possess little virtue or strength. Considerable quantities of Male-berry or Pea-berry Ceylon are shipped to this country and are used as a substitute for Male-berry Java.

Maracaibo coffee is a product of the northern part of South America, being raised in Venezuela. Like Java coffee, it is grown in different districts, each district producing a distinct variety, which are known as Cucuta, Merida, Tovar, Bocono and Trujillo. Maracaibo is the principal shipping port. The coffee is brought to this country in sailing vessels and steamers; only light draft vessels can cross the dangerous bar at the entrance of the harbor, and in case of shipment by steamer, it has to be lightered over the bar. The trade is principally controlled by Spanish houses, who have almost a monopoly of it, and it is difficult for outside merchants to operate successfully in the goods there. This, added to the fact that the country is often in a state of anarchy, make the receipts vary.

The crop of Maracaibo is quite large and the bulk of it is consumed in the United States; the receipts in 1880, amounting to about 12,000 tons. It is received here between the months of December and April, the lower grades arriving first, and finest grades not until March and April. Cucuta and Merida rank the highest, and justly so. The former grows on the lowlands and is a medium-sized bean, light colored coffee. When first received here, however, the color is green and it is usually kept in store, allowing it to thoroughly dry and bleach, when it assumes a yellowish hue, enhancing its market value one to two cents per lb.; the fancy marks of this coffee sometimes selling as high as Java. Merida or Mountain coffee as it is called, is grown

on high lands, and is a very hard-grain heavy bean, dark color and never attains the light, yellowish shade of Cucuta. After roasting, it is impossible to distinguish it from Padang Java in style. It is heavier drinking than Cucuta, and possesses a more distinct acid flavor. Comparatively very little of these coffees go into consumption as Maracaibo. Probably no coffee raised is sold under such false colors as this. It has been found to be an excellent substitute for Java and also for mixing with Java, and its use for this purpose is fully recognized by the trade. The United States consume five times as much coffee, under the name of Java, as there is actually imported into the country, and we are forced to admit that the Cucuta and Merida varieties of Maracaibo coffee are the pack horses which carry most of the above load.

Tovar, Bocono and Trujillo grades differ essentially in point of quality from Cucuta and Merida. The bean is irregular in size, and owing to carelessness on the plantations in gathering, small stones are found mixed with it. The resemblance to Java is not sufficient to be used as a substitute or even for mixing with Java, but they are usually sold for what they are, Maracaibo coffee. They drink rank and possess a peculiar flavor. This is especially so of Trujillo, a large proportion of which resembles Rio in flavor. They sell from 2 to 4 cents less than Merida or Cucuta. Maracaibo coffees are packed in a peculiar bag, made of string, resembling a fine net, the contents being plainly seen through the meshes. They have distinguishing marks, denoting the districts where the contents were grown, viz: the finest grade of Cucuta is marked C. C., under the importers initials; The ordinary grades C.; Merida M.; Trujillo T. for best.; T. T., denoting poorest.

Savanilla coffee is grown in the United States of Colombia, separated from the Cucuta district by a high range of mountains, over which the coffee has to be transported on the backs of mules to reach the shipping port of Maracaibo.

It is a light-colored bean of the same general style and quality as the better grades of Maracaibo, but averaging larger in size and combining the united peculiarities of both Cucuta and Merida. After it leaves the hands of the Importers and Jobbers, it is rarely known as Savanilla, but is rechristened Padang Java, and is distributed throughout the country as such. It arrives in the United States packed in cloth bags, which have no distinguishing marks.

Bogota and Coban coffee, other South American products, are finding their way to the United States and are becoming favorably known. They roast Java style, being large and handsome beans and are used for the same general purposes as their cousins Maracaibo and Savanilla; namely, mixing with Java.

Jamaica coffee is grown on the Island of Jamaica and is much superior to any other variety grown on the West Indies; it possesses fine aromatic qualities, and is very popular with intelligent coffee dealers. That raised on the lowlands has in appearance all the characteristics of ordinary St. Domingo, but is of much finer flavor. It is usually shipped to market in large bags, varying in weight from 140 to 300 lbs.; it was formerly put up very irregular, without sorting, the same bag often containing five or six different qualities. Traversing this island its entire length, is a range of mountains on whose slopes and table lands is raised a coffee known as Blue Mountain Jamaica, which certainly possesses as much merit as any coffee raised. Its solid, heavy, oily bean, almost transparent in color, will, when roasted and ground, make a delicious and fragrant cup of coffee. It is shipped largely to England, where its splendid qualities are appreciated. It is usually packed in barrels or casks, and with the exception of Plantation Ceylon is the only coffee so exported.

The more prominent coffees of Central America are Nicaragua, San Salvador, Guatemala and Costa Rica; all of which are at times sold as Costa Rica. This last coffee

has a peculiar, positive flavor, is dark liquor in the cup, very strong and acid to the taste. In color the bean is green and generally semi-transparent ; in size is often large and flat, and is highly prized by experts as an excellent coffee. It has many attributes of other coffees especially that of Mocha, and there is no doubt but what selected Costa Rica will make a cup of coffee which would and does entitle it to take high rank. The fact that much of it is either hidey or sour, renders the purchase of it very risky, and only they who are acquainted with this peculiarity and are competent to detect it, can, with any safety, purchase or use it. It combines readily with other coffees, and for mixing is second to none. Nearly all of the coffee is shipped to San Francisco and is controlled by coffee importers on the Pacific side.

Guatemala coffee has many of the qualities of Costa Rica and is often sold as such. It is not so liable to be sour. It is picked with more care, often washed, cleansed and freed from all impurities, in fact, no coffee comes to this market in so uniformly good condition. It drinks like a Costa Rica, only smoother, lacking its pungency, roasts handsomely, and develops one peculiarity after roasting ; the bean cracks open, showing the white hull, and is very attractive in style, either raw or roasted. It is universally coming into favor and its production promises to be doubled with the next five years. It is very largely used in the West and is sold and consumed on its merits.

San Salvador coffee is similar to Guatemala but not so handsome or stylish ; it drinks well, and has, when brought to market and exposed to the air, a sweet smell resembling Chocolate or Cocoa, and is inclined to turn light yellow or straw color with age.

Nicaragua coffee is among the poorest of the Central American products ; it is not particularly stylish, and in color is of a dull grey hue or mottled straw, and has only fair drinking qualities.

Laguayra coffee is raised in Venezuela, a South American State. This coffee is of a dark green color, and small bean, similar in appearance to Rio, and when Rio has been scarce it has been polished and sold as such. It possesses mild qualities, but often develops more or less Rio flavor; much of it is used in Pennsylvania and the West, and some goes into consumption in New England.

Cape Haytien, St. Marc and St. Domingo coffees are grown on the island of Hayti or San Domingo. They do not rank very high, are large kernels, broad and flat, and often pressed out of shape in process of curing. These coffees are not in much favor in the United States, owing partially to the imperfect mode of picking, curing, &c.

Cape Haytien and St. Marc production have a slight preference in market value over San Domingo coffee. Since the abolition of slavery there has been a falling off of the production, as the natives, left to their own inclination, where nature furnishes all they desire in the way of eatables, (which grow spontaneously), sun themselves without thought or care. It is brought to this country in vessels loaded partially with logwood, but most of it is re-exported to the countries bordering on the Mediterranean Sea. It drinks fairly well, but is not much used for mixing; it sells for about three-quarters of the price of good Maracaibo.

Mexican coffee. The improvement in this variety has been something wonderful. Five years ago the demand was very limited, owing to its particularly poor drinking qualities, but at the present time this peculiarity has nearly disappeared, and some exceedingly fine coffees are being received from Mexico, ranking equal to any of the South American mild grades; the rancid, disagreeable flavor once disgustingly noticeable, having entirely disappeared. The two principal producing districts are Cordova and Oajaca. The Cordova product is a large-sized, light-colored bean, resembling fine Maracaibo; in appearance green, roasting

large and smooth, and possesses a peculiar flavor in the cup, somewhat resembling Mocha. That grown in the Oajaca district resembles Plantation Ceylon in style of roast and drinking qualities. But comparatively few of the wholesale dealers have as yet awoke from their Rip Van Winkle sleep, enough to realize that growing almost in their back yard is a coffee, which, when roasted and served on the breakfast table makes a cup of coffee surpassed but by few. And it is fortunate in one sense that it is so, as the supply at present is so limited that it is sold almost immediately on arrival, the price realized being about the same as for better grades of Maracaibo. Mexico has great future capabilities, and when the government becomes safe and free from anarchy, and the railroads, which the government are subsidizing, have been extended throughout the coffee districts, it is more than probable that it will rival the present great producing countries, especially South America and the East Indies. Porto Rico at one time produced a coffee of that name, which was exceedingly popular, and the sale in this country, both east and west, was large, but like Costa Rica coffee, it is inclined to become sour and hidey, and the experience of the trade has been such as to entirely stop the demand. It resembles Costa Rica in style of bean, and has about the same market value.

Liberia produces a variety of coffee but little used, and in our opinion the public appreciating a fine cup of coffee are none the losers. It has very marked peculiarities. It is a large misshapen bean and drinks strong and rank, possessing no fine qualities. With the exception of Mocha, its market value is the highest of any on the list, owing no doubt to its scarcity, and the demand for it as a novelty.

African coffee, grown on the east coast of Africa, is a small-sized bean, gnarley and unsightly in appearance, resembling Liberian. In the cup it drinks rank, harsh flavored and generally disagreeable, and is very unsalable.

Manilla coffee is the product of the Island of Manilla, and is only occasionally imported into this country. It possesses no qualities that would recommend it, drinking like many of the package preparations labelled coffee.

Malabar coffee is a product of the East India Islands, and is a fine variety. The bulk of the crop is shipped to Alexandria, where it is repacked and sold as Mocha.

California has turned her attention to the growth of coffee, but as yet it has not passed beyond the limits of experiment. The samples that have been received, show a large white bean, with flavor resembling Costa Rica, from which seed it is raised.

We have now arrived at the end of the list which comprises all of the commercially known coffees of the world. Additional details could be written, but they would be of no practical advantage to the retail grocer, for whose benefit this pamphlet was written. You may be interested to know that the distinctive flavors, noticeable in the different varieties mentioned, are attributed entirely to the peculiarities of the soil and climate where they flourish, as recent experiments have clearly shown that East India trees producing mild coffees, will, when transplanted to Brazil, furnish a coffee which develops strong Rio characteristics, and to all intents and purposes a Rio coffee. Careful cultivation and curing improves the market value, but it rests with soil and climate to stamp its distinctive flavor.

TARES ON COFFEE.

<i>KIND.</i>	<i>Style of Package.</i>	<i>Per Ct.</i>	<i>Lbs.</i>
Java	Pockets	1	...
"	Bags	2	...
Mocha	(Covers)	Actual	...
"	$\frac{1}{2}$ Bales	...	6
"	$\frac{1}{4}$ Bales	...	4 $\frac{1}{2}$
"	$\frac{1}{8}$ Bales	...	3
Rio	Bags	1	...
Santos	Bags	1	...
Jamaica	Bags	2	...
"	Barrels	Actual	...
Cape	Bags	2	...
Maracaibo	Bags	1	...
Savanilla	Bags	1	...
Ceylon	Bags	2	...
"	Barrels	Actual	...
Laguayra	Bags	Actual	...
Costa Rica	Bags	1	...
Angostura	Bags	Actual	...

TABLE OF STATISTICS

Showing where the United States received its supply in
year 1880, and amount from each.

*Those marked with an * are non-producing countries.*

Brazil,.....	296,731,718	lbs.
Venezuela,.....	35,518,910	"
Dutch East Indies,.....	28,033,008	"
Central America,.....	19,254,218	"
Haiti,.....	22,659,285	"
Mexico,.....	9,818,525	"
U. S. of Colombia,.....	12,687,423	"
British West Indies and Honduras,.....	2,049,577	"
*England,.....	5,517,103	"
British East Indies,.....	4,647,062	"
China, Hong Kong, and other Asiatic Countries,.....	1,043,535	"
*Netherlands,.....	3,083,840	"
Hawaiian Islands,.....	77,923	"
Liberia,.....	143,781	"
Porto Rico,.....	2,937,083	"
Dutch West Indies and Dutch Guiana,.....	1,204,363	"
British Possessions in Africa and adjacent Islands,.....	594,051	"
Africa,.....	1,220	"
Spanish possessions and others,.....	9,733	"
Danish West Indies,.....	239,902	"
Peru,.....	840	"
French possessions in Africa and adjacent Islands,.....	1,442	"
*Germany,.....	238,495	"
Cuba,.....	29,538	"
*Belgium,.....	79,492	"
Azores, Madeira, Cape de Verde Islands,.....	1,286	"
Turkey in Africa,.....	10,300	"
British Guiana,.....	170	"
*Provinces of Quebec, Ontario, Manitoba, etc.,.....	329	"
France and French West Indies,.....	33,005	"
*Portugal and Spain,.....	1,870	"
San Domingo,.....	150,709	"

TOTAL, . . 446,850,727 lbs.

VALUE, . . \$60,360,769

SKIMMINGS.

THE City of New York is commencing to command attention as a coffee producing district, contributing what is known on the market as skimmings. This variety is literally what its name indicates, and the process of obtaining it is as follows:—A greater or less portion of each cargo is found on arrival to have become damaged on the voyage by dampness, discoloring the bean and rendering it musty and mouldy. That portion of the cargo packed along the sides and top of the hold are more or less stained, and can be easily detected by the outward appearance of the bag or mat. These are cut open and the damaged beans are skimmed off; the remainder are then rebagged and sold as sound coffee, although it is an open question whether they can be considered as such. Many good judges maintain that as coffee is very susceptible to outside flavors, the odor of the mouldy beans penetrate through the whole bag. The skimmings of Java after being rebagged are classified and marked by a small stencil or brush on one corner of the package, as follows: G. S. signifying good skimmings; P. S. poor skimmings; S. S. store sweepings. In appearance good Java skimmings show very little damage, in fact, unless closely examined, would pass for a sound coffee and sell readily for from 2 to 3 cents per lb. less than the straight goods. In fact the demand is in excess of the supply, and this is met by using Singapore Java, (which we have described as

very offensive in the cup), and coloring by sweating South American mild coffees, taking care to sprinkle in a few damaged or black beans, in order to fully stamp them as skimmings. After roasting, it is impossible to detect these goods from sound coffee by their appearance. But it is very rare to find a lot that in the cup does not develop musty flavors, the fine delicate qualities of the coffee being entirely killed. The majority of the wholesale dealers buy their coffee on its style, color and general appearance, without roasting a small sample lot and testing its drinking qualities. You can readily perceive the result by following such a method.

Rios are classified in the same way, only with an additional letter denoting the color of the goods, viz.: G. L. S. signifying good light skimmings, and G. D. S. signifying good dark skimmings. Owing to the short time occupied on the passage, Rio as compared with Java varieties arrive in much better condition, and to all intents and purposes Rio skimmings are equal to sound Rio; in fact they often bring a higher price on the market, as some dealers believe they roast better and drink stronger on account of the added moisture, and their flavor in the cup is not affected.

Ground stain is another feature of damage caused by imperfect methods of curing. In some localities the green coffee is spread on the ground to dry, this becomes impregnated with sand and dust, and no amount of roasting will eradicate it. The result is an unsalable coffee in appearance, although not affecting its drinking qualities.

ROASTING AND GRINDING.

WE will take it for granted that there is not a retail grocer in New England but what will acknowledge that the present system of roasting coffee by machinery, controlled by skillful workmen, offers superior advantages over the old methods, whether it be the primitive family skillet or the small portable machines turned by hand, which some retailers use. If there are any in doubt we would respectfully ask them to compare a sample from some large wholesale coffee house, with the product of their individual efforts and note the difference. Bear in mind this fact, and it is a settled fact, that the most important conditions necessary to the securing of a cup of good coffee is the roasting of the bean properly, as the slightest variation from what is established as the correct roast will completely change the character of the drink. Perhaps a description of the methods employed by the leading coffee dealers will be found interesting.

The latest improved machine consists of a large revolving cylinder encased in brick work, revolving regularly and moved by steam power, underneath the cylinder being a coal fire. The entire surface of the cylinder being perforated with small holes allows the smoke and vapor to escape readily. Through the centre runs a right and left sheet-iron screw, which passes the coffee from end to end at same time of revolving. This is a great improvement over

the old style plain cylinder machines, as the last improvement renders it impossible to turn out an uneven roast. As the color of one bean is, so must the other be. In the outer head of the cylinder is a small opening, through which the workman inserts a tryer, enabling him to ascertain just how far the roast has advanced. Affixed to the cylinder is a flue which carries away the smoke and vapor during the roasting process. When sufficiently browned the coffee is immediately run off into a large, square, sheet-iron box, with a wire screen bottom, termed a cooler. At an opening in the end of the cooler is fitted a powerful blower, forcing cold air through the heated beans until they assume a condition which allows of their being handled. Meanwhile the coffee is thoroughly agitated while cooling, as the oil of the coffee would appear on the surface if allowed to remain quiet. The ordinary size of machines used have a holding capacity of 300 lbs., although 200 lbs. is the amount usually roasted at one time. Forty-five minutes is the average time consumed for each roast, but the entire process of roasting, cooling and emptying occupies about an hour. Roasted coffee should be packed and kept in air-tight packages, as the aroma is constantly escaping from the time it leaves the roaster, and is continually absorbing moisture, which destroys its life and fragrance. Pine boxes or bins should never be used, as roasted coffee readily absorbs the wood flavor, which can easily be detected in the drink. Some of the more enterprising coffee dealers now ship roasted goods in tin cans, hermetically sealed, with a holding capacity of 25 and 50 lbs. each, and we believe the time is not far distant before retail grocers will demand this style of package.

The shrinkage of coffee by roasting averages 15 to 16 per cent.; extremely green lots losing 18 per cent., while a very old coffee will not loose over 12 or 13 per cent. The roasting process will develop in every coffee more or less of what is termed in coffee parlance, quakers. Too

much importance is attached to these kernels, many supposing that their presence indicates a mixture. Such is not the case; they are simply a bean, which, while on the trees, become sun-dried, the oil or caffeine, which is the essence of coffee, evaporating, leaving nothing but a lifeless berry; they roast white, and are perfectly tasteless. Our idea of a correct roast is to give the coffee a light chestnut-brown color, although the trade in different sections of the United States differ in their opinions, some preferring a dark mahogany color. Our experience leads us to believe that the fine essential qualities necessary to securing a good cup of coffee are killed by over-roasting, in order to produce this color, and we would not recommend it.

Simple as it may seem, the process of grinding the roasted bean is one that requires more attention than what is at present given to it. Coarse ground coffee requires protracted boiling to extract its strength, and much boiling is fatal to a good cup of coffee. While one may grind too finely, the mistake of grinding too coarsely, is that most frequently made. Just to what degree of fineness it should be ground depends somewhat on the manner of making the coffee. There are three distinct methods employed in making coffee, as follows:—boiling, leaching or filtering, and by infusion. The first method by boiling is the most common one, and the coffee used should be ground so that the larger particles would not exceed in size, the head of a pin, while for the other two methods, the coffee should be ground very fine, and we believe it is of the utmost importance to the retail grocer that he should discover just what method each consumer uses, and adjust his mill to individual requirements.

MANIPULATION & ADULTERATION.

THE manipulation of coffee is so wide-spread that to enter into all the details would consume more time than we can spare to write, or the reader to peruse, and think it will suffice to give a hurried description of the most important processes. Probably no one article in the world is subject to so successful manipulation as coffee. It commences from the time the berry is picked and prepared for the market, and continues until it reaches the consumer.

The producer mixes the leavings and tail ends of the old crop with the new, when he can successfully. The middle men or commission agents at the principal points where coffee is accumulated for shipment, manipulate it by changing packages and marks, polish it or paint it (for coloring done by chemicals amounts to the same thing), and so alter the marks, color and appearance, as to make it sell more readily. On its arrival in this country the coffee is turned out of its original packages, shovelled over, marks again changed, and bags turned inside out, sweated or colored artificially, as the trade desire or the necessity of the removing the traces of damage require.

Java skimmings are picked over by children, the black beans eliminated, the balance rematted and sold as sound; but as before stated, the taint remains, which no amount of labor or human ingenuity can remove. An average of 6,000 mats monthly of this coffee has been bought by

wholesale dealers in the coffee centres, and by them distributed throughout the United States to the retailers as sound first-class goods.

All varieties of coffee pass through more or less manipulation, but not always to the injury of the goods, or detrimental to the buyer.

Rio coffee is polished by machinery, and colored in different shades. The golden hue is applied by the use of tumeric; light slate color, by the use of soap-stone. This does not affect its drinking qualities, but simply enhances its commercial value in appearance. Maracaibo and other mild coffees are made more salable by resorting to a process known as milling, which consists of running the coffee through brushes, removing all dust and dirt from the bean, giving it a uniform color and appearance.

Under the head of adulteration little can be said. Owing to the present cheapness of pure coffee, the system of combining foreign substances with it is a thing of the past.

More or less cheap mixtures are sold in package form; but it is universally understood that they are mixtures, consisting of chicory, peas, rye, &c., and contain but a limited percentage of coffee.

Every coffee mill in a retail grocer's store is a nail in the coffin of adulterated coffees, as by purchasing the whole roasted bean, and grinding it themselves, you obtain nothing but pure coffee of some grade.

GENERAL REMARKS.

FROM a total of yearly production of about 525,000 tons, the United States consume an average of 156,482 tons; this shows a rapid increase, as up to the year 1861, the average yearly consumption amounted to only about 79,848 tons. But bear in mind, that marching side by side with increased consumption, and keeping pace with it is an improved public taste imperatively demanding finer drinking coffee.

Fifteen years ago the average quality of the coffee drank would not be tolerated in a county poor-house of the present day. Of all the table articles offered for sale by the retailer we know of none which adds to or detracts from his reputation so much as the quality of his coffee. We believe the retailers thoroughly realize this fact, and have striven long and honestly, making price a secondary consideration to secure a coffee that would perfectly satisfy the consumers. Those of you who have failed to do so may have been and are now at a loss to account for it. In our description of the varieties of coffees and the manipulations of the same, we have stated nothing but plain, unvarnished truths, which we are in a position to maintain. Should you reperuse the same you may be inclined to investigate your source of supply, and there find good cause for your non-success.

There are two distinct methods employed in the purchase of coffees by wholesale dealers at the present day.

One is (and it numbers among its followers by far the larger majority of buyers), to make the general appearance of the green berry, such as color, size, and the district where it was supposed to have been produced, the only standard for determining its quality and adaptability to satisfy the wants of customers. We unhesitatingly pronounce this method to be directly responsible for the failure of so many retailers to obtain even running fine coffee. We will not consider the liability they incur to have artificially colored or damaged goods foisted upon them, but take it for granted that in each and every case they are fortunate enough to secure straight Java coffee, (we use the term Java in our argument for the reason that the trouble invariably occurs in that variety.) The result is not changed for the reason that two coffees of equal commercial value, in appearance green, arriving on the same ship are liable to be wide apart in cup value, one developing full rich qualities, the other the reverse. Do you suppose for one instant that you can obtain even running pure coffee from such a source? As well might you believe that a cup of pure water can be obtained from a brook whose fountain head starts in a barn-yard.

The other method of purchasing is to roast by hand a small sample of the coffee under consideration—grinding, weighing carefully in fine adjusted scales, and placing on the sample table by the side of some coffee which has given complete satisfaction and stamped its reputation. Color and appearance green is completely ignored, and in their place drinking qualities receive paramount attention. This process is pursued by comparatively few, as it takes years of careful application and general adaptability to succeed as a coffee expert. It requires something more than honesty and good intentions to do a jobbing coffee business at the present day, although they are necessary requisites; in addition, must be a complete knowledge of the facts in regard to adulterations and ability to detect

the same. We strongly advise the retailers who are desirous of securing the finest and most uniform coffee to place their orders with houses who make a specialty of this article, as the time, care and knowledge necessary to secure successful results cannot be given by dealers who make coffee one of many articles they purchase and sell. This rule applies to mercantile business with equal force as to professional callings. For a scientific treatment of the eye, would you go to the family physician or the oculist?

After you have purchased your roasted coffee, don't put it in a wooden bin or box, or leave it exposed to the air, it will certainly absorb moisture which deadens it, and the woody flavor will be noticeable in the drink. "Keep your coffee in a tin can."

See that your coffee mill grinds evenly—an old style of mill will not. The improved mills are the best, and can be adjusted to the requirements of each customer. You will be repaid for your trouble by the increased satisfaction it will give.

IMPORTANT LEGAL DECISIONS.

BOND — VALIDITY — CLERICAL MISTAKE.—In the case of *Warner vs. Roeher*, decided by Judge Gresham in the United States Circuit Court, at Chicago, the figures and words "5,000 and—cents in lawful currency," were held good notwithstanding the clerical mistake of omitting the \$ mark. Judge Gresham said that to hold the bond void for such an omission would be too technical for justice.

PROMISSORY NOTE — MORTGAGE — INTEREST.—Where a note due twelve months after date provided that it should bear "interest from date, payable semi-annually," and a mortgage executed to secure the note described it as "bearing interest until paid, said interest to be paid semi-annually," the Kentucky Court of Appeals construed the two instruments together as constituting a contract for the payment of interest semi-annually until paid.—[*Shanks et al. vs. Stephens*, decided January 15.]

PARTNERSHIP CREDITORS — ASSETS APPLIED TO PARTNER'S DEBT — CONSENT OF FIRM.—Creditors of an individual cannot apply the assets of a partnership, of which the individual is a member, to the payment of his debt, as against partnership creditors. The acquiescence of the firm to such wrongful application of assets does not impair the rights of firm creditors thereto after they have become fixed by attachment of the assets.—[*Carter vs. Galloway*, Louisiana Supreme Court.]

PARTNERSHIP — DISSOLUTION.—Where a partner has retained the right to dissolve a partnership at his pleasure, and on a given day orders the books to be balanced for the purpose of ascertaining the interest of the retiring partner, but on the completion of that work fails and neglects to pay the sum thus found to be due, and the retiring partner remains in daily attendance, and does in the business of the firm precisely what he had always done without remonstrance or complaint of the dissolving partner, the partnership will be held to have continued until the latter has abandoned his position, or has been driven from it, or the former has done some overt act signifying that the dissolution has already taken place.—[So held by the Supreme Court of Louisiana in the case of *Oteri vs. Oteri*, decided recently.]

RAILWAY CARRIERS — ACTION TO RECOVER BACK ILLEGAL FREIGHT CHARGES.—A shipper has a right to have his goods transported at legal rates over the usual line of a common carrier of such goods, and if, to procure the services of such carrier, the shipper is compelled to pay illegal rates established by the carrier, the payment is not such a voluntary payment as will preclude recovering back the illegal charge; nor will it preclude such recovery if the payments, by arrangement of parties, are made at the end of each month.—[*Peters vs. Railroad Company*, Ohio Supreme Court.]

PARTNERSHIP—DISSOLUTION—NOTICE.—Where a partnership had dissolved, no notice of the dissolution being given, and a former customer sold goods to the partner remaining in business, and such partner signed his own and the name of the retiring partner to a note given in payment for such goods, the Supreme Court of Indiana held that the note bound both partners.—[*Iddings vs. Pierson et al.*, decided January 31.] The court said that in order to establish the liability as partners of persons who had dissolved partnership three things must appear, viz.: First, that the plaintiff at the time the contract was made under which his claim accrued knew that the defendants had been in partnership; second, that he was ignorant of their dissolution; third, that he made the contract supposing he was contracting with the defendants as partners, and in reliance on their joint liability.

SALE, OF BUSINESS TO PARTNER.—P sold his interest in his firm to his partner, disputes having arisen between them. It was stipulated in the sale that P should not be restricted from carrying on the same business wherever he might see fit. He called on the customers of the old firm who had dealt with it when he was a member, and an injunction was got against him. P took the case to the English Court of Appeals, where the injunction order was set aside. Baggallay, L. J., in his judgment said: "A man who has sold his good will in business is not prevented by the sale from soliciting orders from his old customers, provided he does not represent that his is the old business, or that he is the successor of the old firm."—[*Pearson vs. Pearson*, English Court of Appeals.]

LIBEL—ADVERTISEMENT.—The case of *Zier vs. Hoffin*, decided by the Supreme Court of Minnesota on the 3d ult., was an action against the defendant for an insertion in a newspaper of the following advertisement: "Wanted E. B. Z., M.D., to pay a drug bill." Some third person, it appears, cut out the advertisement, pasted it on a postal card, and sent it to a young lady to whom the plaintiff was affianced. The court, in holding that a verdict for the plaintiff should be sustained, said regarding the words in question:

The only facts suggested by them standing alone—to wit, that the plaintiff owes a drug bill and that the creditor wishes him to pay—do not necessarily impute anything wrong to plaintiff. But words which may be innocent of themselves may be rendered libelous by the place and circumstances of their publication, for such place and circumstances may impress on them a meaning and suggestion which standing alone they do not have. Thus, though the words here do not of themselves impute wrong, they might be published in such a place or under such circumstances as to make them capable of naturally conveying the impression that plaintiff had been guilty of dishonest practices, either in contracting the debt or in withholding payment of it.

SALE—FRAUD.—Anderson bought goods of Perkins, representing himself to be one Swede, a merchant of that name doing business in an Iowa town. The goods were consigned to Swede, and, when they reached their destination, Anderson, having sold them, caused them to be delivered to the buyers. Perkins brought a suit to recover the goods from the purchasers from Anderson, on the ground that the delivery to Anderson, he not being Swede, was not a lawful delivery, and that the title did not pass to him. Perkins was defeated, and he took the case—Perkins vs. Anderson—to the Supreme Court of Iowa, where the judgment was affirmed. Judge Beck, in the opinion, said: “A delivery by the carrier was a delivery under the contract, with the knowledge and assent of the plaintiff. The mere fact of Anderson taking possession of the goods was not in itself wrongful; nor did the fraud of which he was guilty consist in that act. The fraud was in falsely assuming a name other than his true name. The company had the right to make the delivery to Anderson. The plaintiff having voluntarily delivered the goods to Anderson, thus enabling him to commit a fraud, he must suffer, and not the innocent purchasers from Anderson.”

PARTNERSHIP FUNDS—PRIVATE DEBTS.—Neither an agent nor a partner has implied authority to apply partnership funds to the payment of private debts, according to the decision of the Supreme Court of Michigan in the case of Chase vs. Buhl Iron Works.

SALES—SAMPLES—RECISION.—The purchaser of a commodity without exhibition of samples is entitled to recover back money paid for accommodation in advance, when, after inspection of the articles, it is found to be not of the standard.—[Adler vs. Wolff, Louisiana Supreme Court.]

PARTNERSHIP.—UNINCORPORATED ASSOCIATION—DIRECTORS—LIABILITIES FOR LOSSES.—The directors of an unincorporated as-

sociation, who honestly conduct the business thereof to the best of their judgment and ability, are not liable for loss accruing from an error of judgment, even though such error is an unintentional violation of the articles of association. Articles of Association may, as between the co-partners, be qualified by parol.—[Addams' Appeal, Pennsylvania Supreme Court.

PARTNERSHIP DISSOLUTION.—NOTICE.—A note given in the name of a firm by one of its members after dissolution to one who extends credit to the firm, and who has had no notice of such dissolution, and where no notice of any kind has been given, binds the firm, notwithstanding the dissolution, according to the decision of the Supreme Court of Georgia in the case of *Ewing et al. vs. Trippe, et al.*, decided on the 2d ult.

STATUTE OF LIMITATIONS.—NEW PROMISE.—When the plaintiff seeks to remove the bar of the statute of limitations by proof of a new promise by implication from an acknowledgment of the debt, the evidence should show an admission of a previous subsisting debt, which the defendant is liable for and willing to pay. So held by the Supreme Court of New Hampshire in the case of *Holl vs. Gage*. In this case the court held that the taking of security from the principal by a surety upon a promissory note was not of itself an admission to the holder of an indebtedness which the surety was liable and willing to pay sufficient to remove the bar of the statute of limitations.

LANDLORD AND TENANT.—AGREEMENT.—Where there is a contract whereby property is rented for one year only, coupled with the further agreement that at the expiration of that year the landlord and tenant shall regard a new renting for another year as agreed on unless there is a previous dissent, a permitted holding over by the tenant is an assent of both parties to the contract for the first year as the contract for the second year, and will bind both as firmly as if there had been a formal contract entered into for the second year. So held by the Kentucky Superior Court in the case of *Unger vs. Bamberger*, decided on December 1.

AGENCY.—AUTHORITY.—ACCEPTANCE.—Where one gave to his agent a letter of credit, whereby he engaged to honor drafts drawn by the agent "for cotton purchased at ruling market prices, with bills of lading attached," and the agent purchased cotton amounting in all to fifty-five bales, which were forwarded to and received by the giver of the letter, and drew for these purchases sixteen drafts, payable to the order of the plaintiff, fourteen of which had no bills of lading attached, but were notwithstanding paid by the defendant without objection, the Supreme Court of Georgia held that the course of dealings between the parties waived the neces-

sity of attaching bills of lading, and that the acceptance of consignments of cotton by the defendant raised a promise to pay drafts drawn on him by his agent who purchased the cotton for him, without any written undertaking so to do, there being no dispute that such drafts were drawn on cotton received by the defendant, and he having paid a number of drafts so drawn.—[*Mercier vs. Copeland*, decided December 2.

ASSIGNMENT—TRUST PROPERTY—DEBT—According to the decision of the Minnesota Supreme Court, in the case of *Noyes vs. Beaupre et al.*, the trust property in the hands of an assignee, under a general assignment for the benefit of creditors, cannot be taken on attachment in an action against the assignee personally, although the debt upon which the action is brought was contracted by the assignee in the execution of the trust, and constituted an expenditure for which he would have a right to be reimbursed out of the trust estate. In this case the assigned property consisted of a stock of merchandise. The assignee, with the consent of all the creditors, for the purpose of enabling him to sell the stock to better advantage, bought other goods, which he added to and commingled with the original stock, selling the commingled property and applying the proceeds indiscriminately toward the payment of the debts of the assignor, including the debts contracted in making the new purchases. The court held that, at least as against the creditors assenting to this proceeding, the goods thus purchased and commingled with the assigned property became a part of the trust property as fully as that which was assigned.

MEASURE OF DAMAGES—INJURY TO GOODS.—Where goods are injured while in transit the measure of damages is the reasonable market value of the goods at the point of destination at the date at which they should have arrived there according to the carrier's undertaking, less what they were worth at the date when they did arrive in their damaged condition. So held by the St. Louis Court of Appeals in the case of *Heil vs. The St. Louis, Iron Mountain & Southern Railroad Company*, decided January 20.

FRAUDULENT CONVEYANCE—RELATIONSHIP.—In the case of *Caudill vs. Gooble*, decided by the Kentucky Court of Appeals on the 29th ult., certain conveyances from a mother to her daughter and son-in-law were held to be fraudulent, the grantors being indebted at the time in a sum sufficient to swallow up her estate, and the relations of the parties being such that the grantees, who failed to explain satisfactorily how the recited consideration was paid, must have known of the financial embarrassment of the grantor and of the fraudulent design.

CONSIGNMENT—BILL OF LADING—PAYMENT.—In the case of Ruhl et al. vs. Corner et al., decided by the Maryland Court of Appeals on the 12th inst., it appeared that the appellees, commission merchants in Baltimore, received a shipment of a car-load of "champion" flour of 125 barrels from one Merian, of Minneapolis, Minn., without order. Merian advised the appellees of the shipment by letter, stating the price at which the firm should sell the flour. No bill of lading was sent the appellees, but at the time of the shipment a shipping receipt was taken from the railroad company for the flour, and that, with a draft of the appellees for \$500, was placed in bank for transmission to Baltimore, but was subsequently withdrawn and was never sent. Subsequent to the shipment to the appellees, Merian & Co. received an order for flour from the appellants, and decided to change the shipment and to send to the appellants this car of flour on their order with a bill of lading. Accordingly the Chicago agent of the railroad company was telegraphed to hold the flour, as Merian wished to change the consignment to the appellants, but in the meantime the flour came to Baltimore labeled for the appellees and was delivered to them. The bill of lading in favor of the appellants, with a draft on them for \$615, was presented by Merian to the Security Bank of Minnesota, and the draft was cashed by the bank, which sent both bill of lading and draft to the Bank of Commerce in Baltimore, to which bank the appellant paid the draft, and received in consideration of such payment the bill of lading for the flour. Ascertaining that the flour had been received by the appellees, the appellants demanded payment of the same, and the Baltimore & Ohio Railroad, the carriers of the cargo, demanded the flour. The lower court decided that the appellees were entitled to it, but the Court of Appeals held that the appellants were the proper custodians of the flour, having ordered and paid for it, the appellees not having ordered, and that they had the right to maintain their action in the case.

STATUTE OF LIMITATIONS—ACCOUNT STATED—PROMISE TO PAY.—There was a running account between S. and H., and after the expiration of the statute of limitations S. entered an account which H. declined to acknowledge. He said on receiving it that he would look over his papers. An action was brought to recover the balance and the plaintiff was defeated. The case—Shultz vs. Houghton—was carried to the Supreme Court of Louisiana, where the judgment was affirmed. Judge Fearer, in the opinion, said: "It is very clear that the defendant never made an 'acknowledgment of the right,' as claimed by the creditors, for after examining his papers he might have disputed any indebtedness the, account being one of large debts and credits."

PARTNERSHIP—DISSOLUTION.—S and T were partners in the manufacture and sale of bricks, and they made two kilns. The first one was sold and S gave T his note for his portion of the profits, \$375, which T accepted. It was not paid, however, and T sued upon it. At the time the action to dissolve the partnership was brought, this suit upon the note was pending. The second kiln was sold, but T refused to account to S, and he brought the suit for a dissolution and an accounting. In this case the plaintiff succeeded, and the defendant appealed to the Supreme Court, where the judgment was affirmed. Judge McKee, in the opinion said: "It is true, generally, that in action to dissolve a partnership and for a settlement, the account must be taken from the beginning of the association. But if there has been a partial settlement between the partners themselves, that fact may be proved in the action; and if proved, the settlement will be considered valid as between the partners themselves, unless it is assailed on the ground of mistake, error or fraud. If there is no valid objection to the settlement, it is conclusive upon the parties themselves so far as it goes, and leaves open only the unsettled portion of the account."—[Stretch vs. Talmage, Supreme Court of California.

STATUTE OF LIMITATIONS—FIRM NOTE—DISSOLUTION—PAYMENT OF INTEREST BY PARTNER.—One member of a firm paid the interest on a note of the partnership after the dissolution of the firm, and within six years from such payment suit was brought upon it. The defense was the statute for limitations, the note being more than six years old, the defendant, one of the partners, claiming that after dissolution no one of the partners could bind the firm by any acknowledgement of a debt of the concern. The plaintiff recovered a judgment, and the case—*Casebolt vs. Ackerman*—was carried first to the Supreme Court of New Jersey, and then to the Court of Errors and Appeals of New Jersey, where the judgment was affirmed. The Chancellor, in the opinion, said: "The payment of interest on a promissory note of the firm by a partner, after the dissolution of the firm, but within six years after the maturity of the note, the payment having been made within six years before the bringing of the suit, takes the note out of the statute of limitation. That has always been the rule in this State." The counsel for defendant cited authorities to show that the rule is different in Indiana, Illinois, New Hampshire, Pennsylvania, Alabama, Tennessee, Ohio, Kansas, Nebraska, Florida, South Carolina, Mississippi, New York, and the decisions of the Supreme Court of the United States are to the same effect. In the following States he gave authorities to show that the rule is the same as in New Jersey: Massachusetts, Connecticut, Michigan, Virginia, North Carolina, Maine, Rhode Island, Delaware, and Wisconsin."

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